

## N O T I C E

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CR-159819  
PWA-5550-50



**MODEL AERODYNAMIC TEST RESULTS  
FOR TWO VARIABLE CYCLE ENGINE  
COANNULAR EXHAUST SYSTEMS  
AT SIMULATED TAKEOFF  
AND CRUISE CONDITIONS**

**COMPREHENSIVE DATA REPORT  
VOLUME III  
GRAPHICAL DATA  
BOOK 1**

By D.P. Nelson

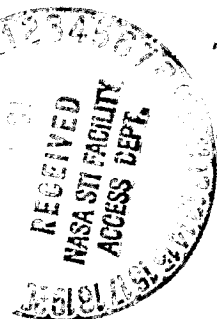
Commercial Products Division  
Pratt & Whitney Aircraft Group  
United Technologies Corporation

(NASA-CR-159819-Vol-3-BR-1) MODEL  
AERODYNAMIC TEST RESULTS FOR TWO VARIABLE  
CYCLE ENGINE COANNULAR EXHAUST SYSTEMS AT  
SIMULATED TAKEOFF AND CRUISE CONDITIONS.  
COMPREHENSIVE (Pratt and Whitney Aircraft

N81-17085

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63/07 41401



Prepared for  
**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**  
Lewis Research Center  
Under  
Contract NAS3-20061

1 Report No. CR-150810		2 Government Accession No.		3 Report's Catalog No.	
4 Title and Subtitle Model Aerodynamic Test Results for Two Variable Cycle Engine Coannular Exhaust Systems at Takeoff and Cruise Conditions - Comprehensive Data Report				5 Report Date January 1981	
				6 Performing Organization Code	
7 Author(s) D.P. Nelson				8 Performing Organization Report No. PWA-5550-50	
				10 Work Unit No.	
9 Performing Organization Name and Address Pratt & Whitney Aircraft Group Commercial Products Division United Technologies Corporation East Hartford, Connecticut 06108				11 Contract or Grant No. NAS3-20061	
				13 Type of Report and Period Covered Contractor Report	
12 Sponsoring Agency Name and Address NASA Lewis Research Center Cleveland, Ohio 44135				14 Sponsoring Agency Code	
15 Supplementary Notes Project Manager: A. G. Powers, NASA Lewis Research Center					
16 Abstract  Wind tunnel tests were conducted to evaluate the aerodynamic performance of an advanced coannular exhaust nozzle for a future supersonic propulsion system. Tests were conducted with two test configurations: 1) a short flap mechanism for fan stream control with an isentropic contoured flow splitter, and 2) an iris fan nozzle with a conical flow splitter. Both designs feature a translating primary plug and an auxiliary inlet ejector.  Tests were conducted at takeoff and simulated cruise conditions. Data were acquired at Mach numbers of 0, 0.36, 0.9, and 2.0 for a wide range of nozzle operating conditions. At simulated supersonic cruise, both configurations demonstrated good performance, comparable to levels assumed in earlier advanced supersonic propulsion studies. However, at subsonic cruise, both configurations exhibited performance that was 6 to 7.5 percent less than the study assumptions. At take-off conditions, the iris configuration performance approached the assumed levels, while the short flap design was 4 to 6 percent less.					
17 Key Words (Suggested by Author(s)) Short Flap Ejector Iris Flap Ejector Coannular Exhaust Nozzle Inverted Velocity Profile			18 Distribution Statement		
19 Security Classif. (of this report) Unclassified	20 Security Classif. (of this page) Unclassified		21 No. of Pages 2226	22 Price*	

\* For sale by the National Technical Information Service, Springfield, Virginia 22161

## FOREWORD

This report documents the work performed during the Nozzle Performance Tests (Task III) of Contract NAS3-20061. Because of the large amount of information, this report is presented in three Volumes to facilitate its use.

Volume I contains the design layouts and detailed design drawings of the nozzle models.

Volume II contains the tabular aerodynamic data generated in this program.

Volume III contains a graphical presentation of the data.

A complete description of the test hardware and test facilities is contained in the companion Task III Final Report, CR-159818. Significant test results and conclusions are also included in the Final Report.



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## INTRODUCTION

This volume contains a graphical presentation of the aerodynamic data acquired during the scale model nozzle performance wind tunnel test.

Section 2 contains an organization guide that can be used to locate the data plots obtained during this program.

Section 3 contains the graphical data and includes plots of:

- o Nozzle thrust coefficient parameters
- o Nozzle discharge coefficients
- o Static pressure distributions

## 2. Graphical Data Guide

The graphical data have been organized by test configuration for ease of comparison. The data are presented in the same configuration order as listed in the data matrix guide, Table 2-I Volume II. For each configuration, the data are organized by ascending run number.

The graphical data presented consist of plots of nozzle gross thrust coefficient (CFP1), fan nozzle discharge coefficient (CDF) and primary nozzle discharge coefficient (CDP). Normalized model component static pressure distributions are presented as a function of primary total pressure ( $P1/Ptp$ ), fan total pressure ( $P1/Ptf$ ) and ambient static pressure ( $P1/Po$ ) for selected operating conditions. In addition, the supersonic cruise configuration data include plots of nozzle efficiency (ETA1 INT) and secondary-to-fan total pressure pumping characteristic (PTS/PTF).

For each run the nozzle performance parameter plots are presented first, followed by the static pressure distribution plots. Each performance plot is identified in the upper left corner of the page by reading (RDG) number sequence, configuration and run (RUN) number. Wind tunnel and nozzle operating conditions are also defined at the top of the page. Each static pressure distribution plot is identified by run (RUN) number and reading (RDG) number in the upper right corner of the page, followed by a heading that identifies the configuration, model component for which the distribution was measured. The second line of the heading defines the wind tunnel and nozzle operating conditions associated with the reading number.

### **3. GRAPHICAL DATA**

**CONFIGURATION C<sub>1</sub>**

**SHORT FLAP NOZZLE**

**SUPERSONIC CRUISE**

RDG. 1039-1070

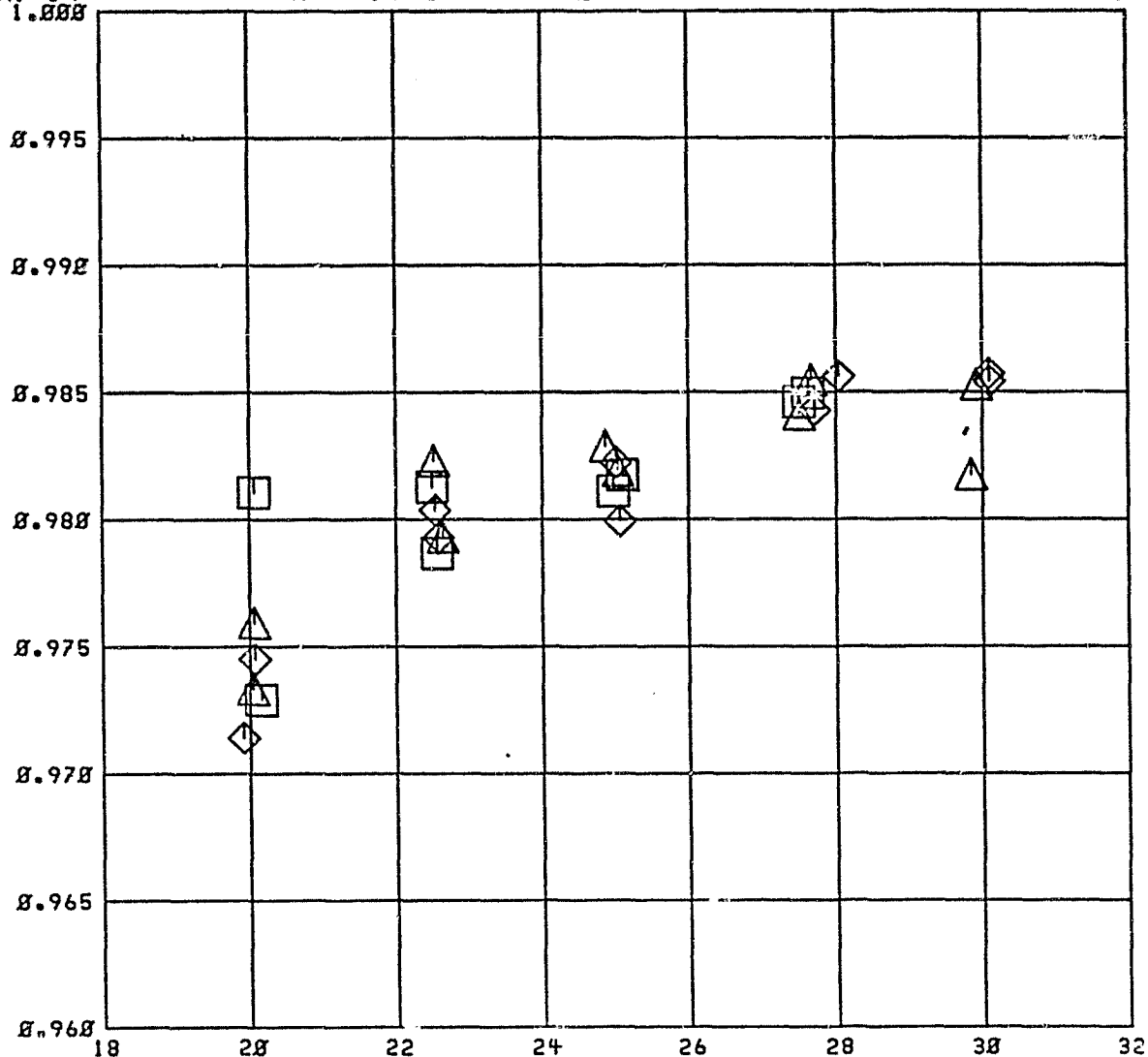
C1  
SUPERSONIC CRUISE

RUN 14  
1.000

$M_0 = 1.96$   $\psi = .000$

$P_{tr}/P_{tp} =$   $\square = 2.0$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

NOZZLE GROSS THRUST COEFFICIENT, CFP1



FAN NOZZLE PRESSURE RATIO, PTF/PO

RD'G. 1039-1070

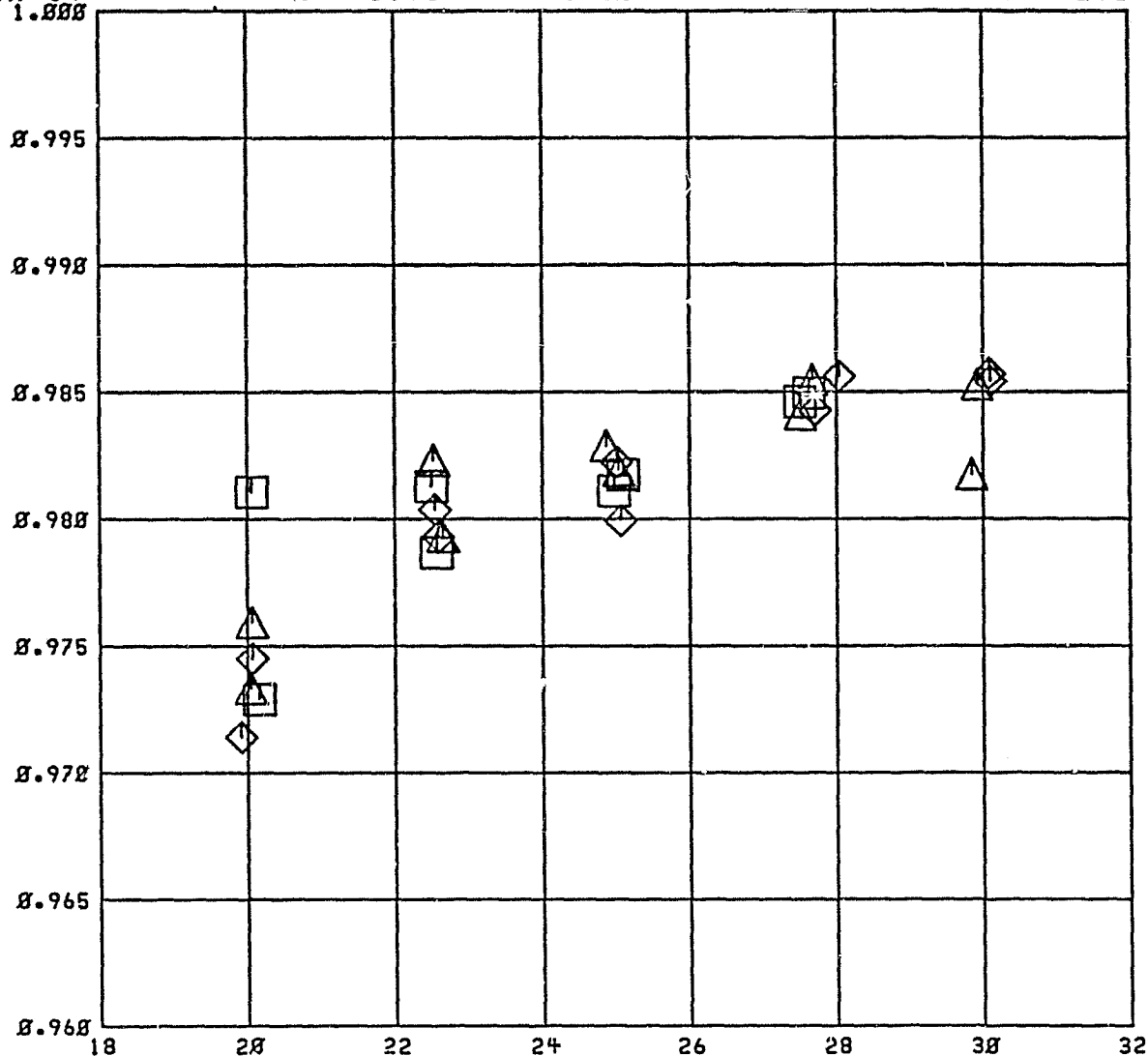
C1  
SUPERSONIC CRUISE

RUN 14  
1.0000

$M_0 = 1.96$   $\omega = .000$

$P_{tC}/P_{tP} = \square = 2.0$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

NOZZLE EFFICIENCY,  $\eta_{1 INT}$



FAN NOZZLE PRESSURE RATIO,  $P_{tF}/P_0$

RDG 1039-1070

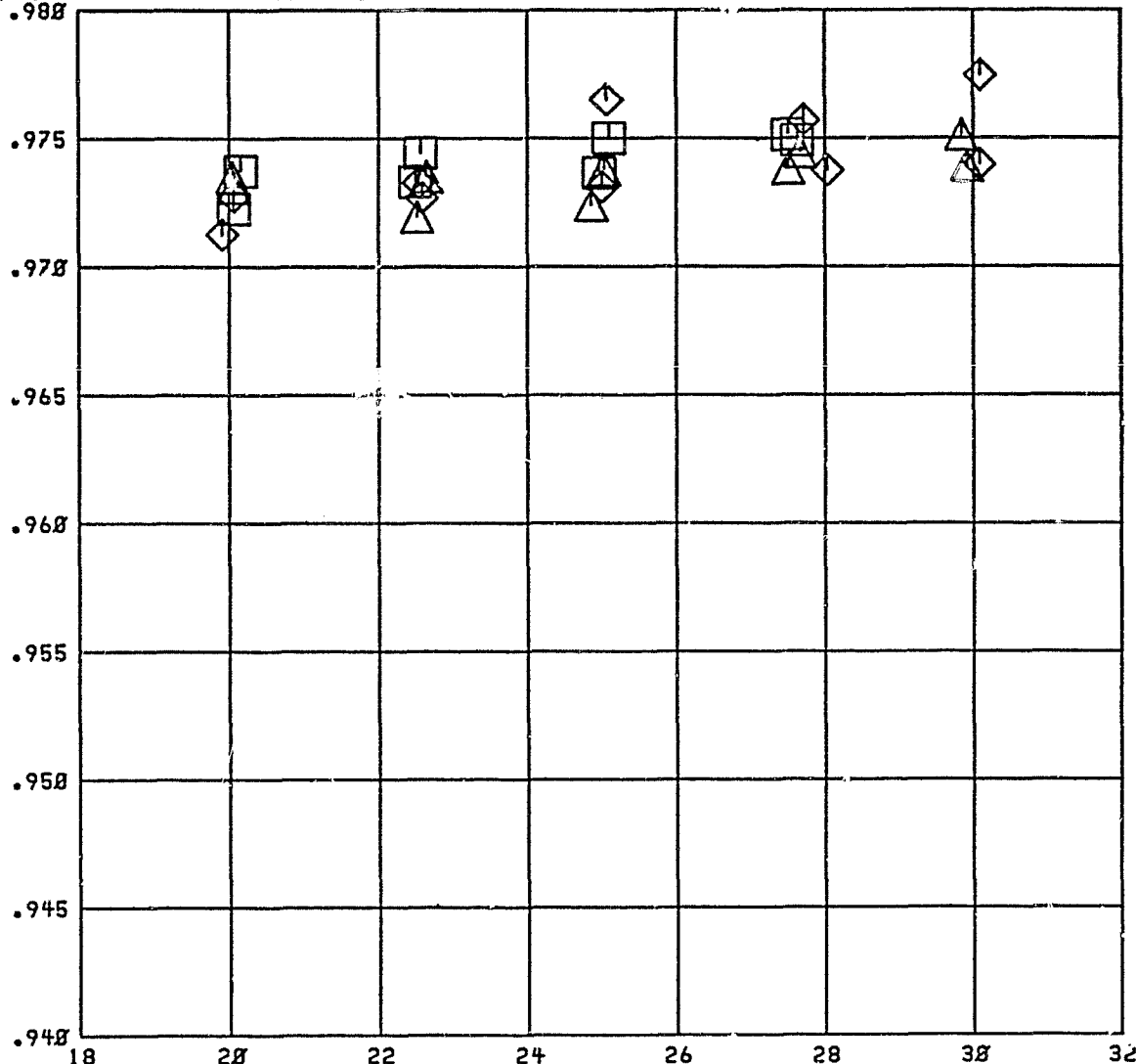
C1  
SUPERSONIC CRUISE

RUN 14  
.988

$M_0 = 1.96$   $\omega = .000$

$P_{tr}/P_{tp} = \square = 2.0$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

FAN-NOZZLE FLOW COEFFICIENT, CDF



FAN NOZZLE PRESSURE RATIO, PTF/PO



RDG, 1039-1070

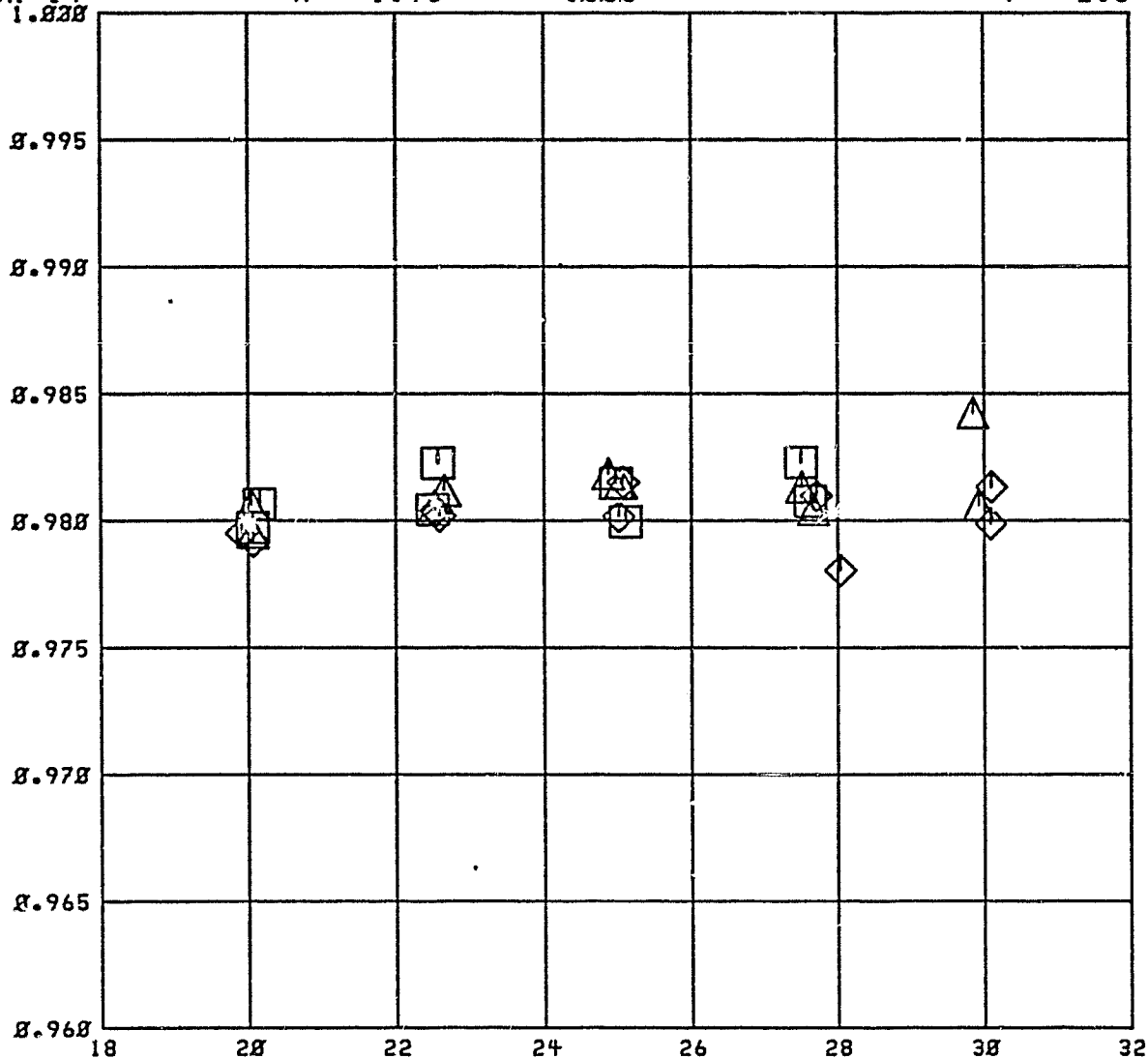
C1  
SUPERSONIC CRUISE

RUN 14  
1.838

$M_0 = 1.96$   $\omega = .000$

$P_{tF}/P_{tP} = \square = 2.0$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

PRIMARY-NOZZLE FLOW COEFFICIENT, CDP



FAN NOZZLE PRESSURE RATIO,  $P_{tF}/P_0$

RDG. 1039-1070

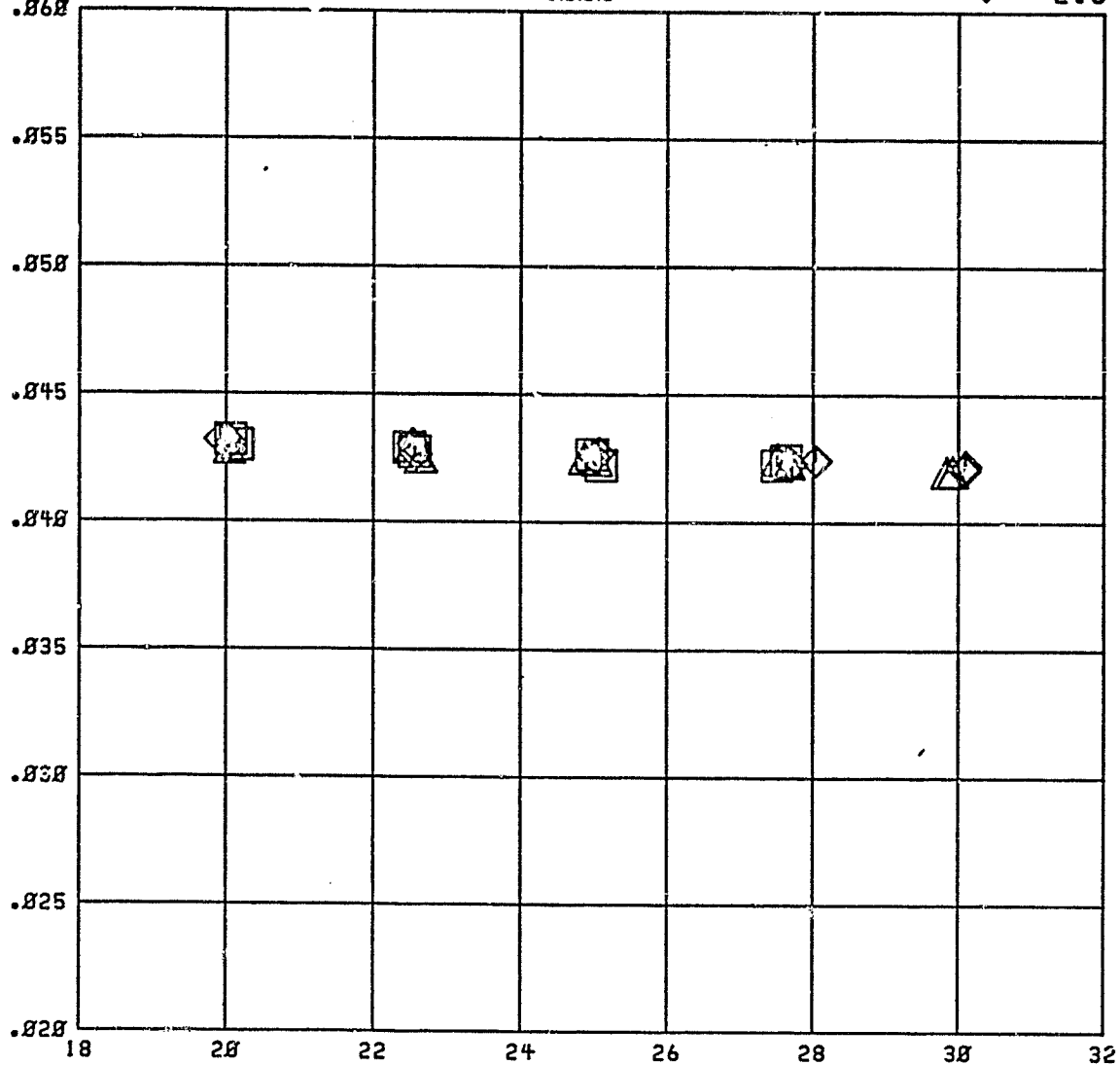
C1  
SUPERSONIC CRUISE

$P_{tr}/P_{tp} = \square = 2.0$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

RUN 14  
 $\gamma = 1.4$

$M_0 = 1.96$      $\omega = .000$

SECONDARY TO FAN TOTAL-PRESSURE RATIO,  $P_{TS}/P_{TF}$



FAN NOZZLE PRESSURE RATIO,  $P_{TF}/P_0$

ORIGINAL PAGE IS  
OF POOR QUALITY

RUN 14

C1

RDG=1848

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

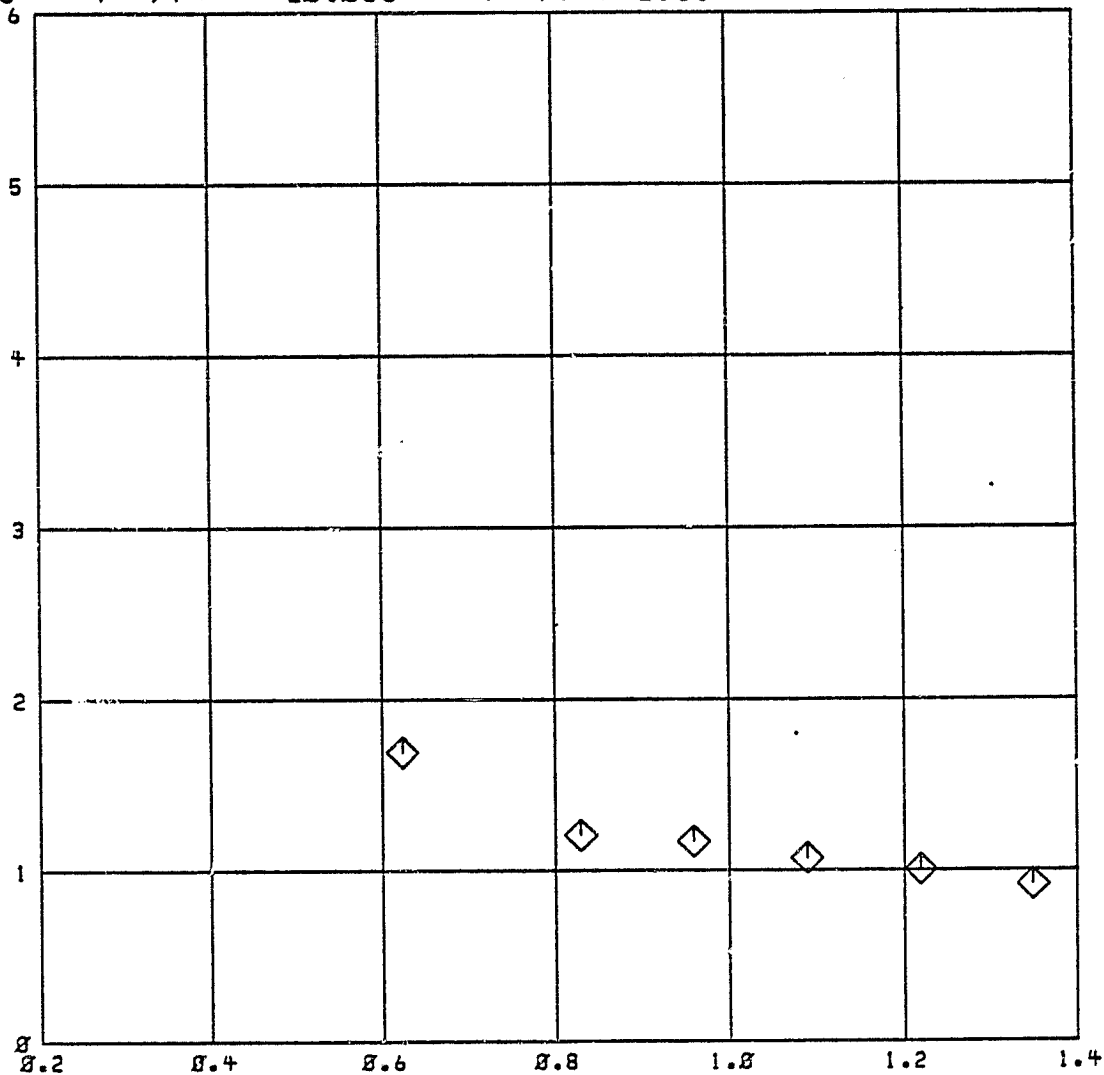
$M_o = 1.96$

$P_{tr}/P_o = 28.853$

$P_{tr}/P_{tp} = 2.31$

$\omega = .888$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_o$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 14

C1

RDG=1043

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

$M_o = 1.96$

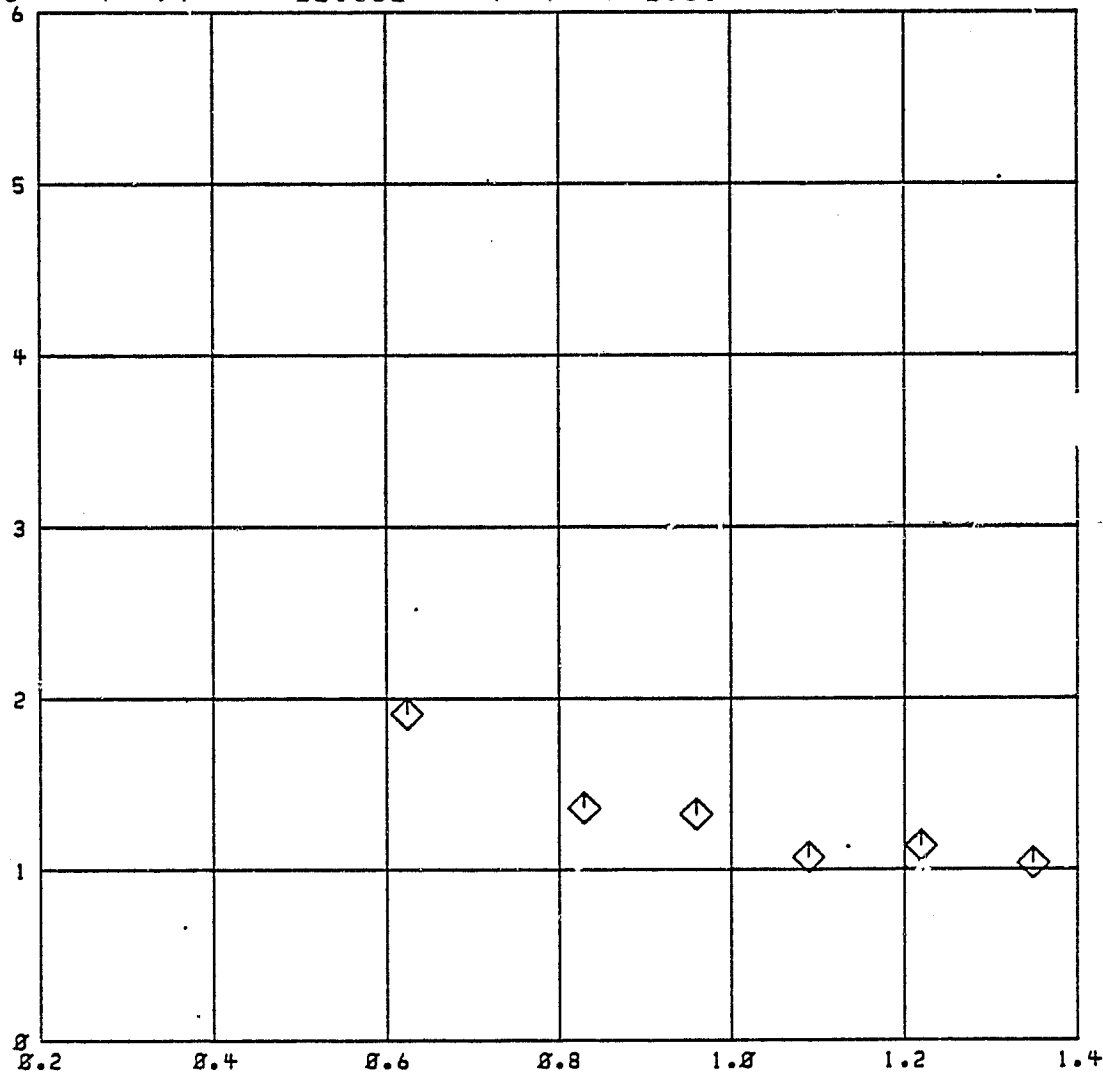
$P_{tr}/P_o =$

22.652

$P_{tr}/P_{tp} = 2.31$

$\omega = .000$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_o$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

Run 14

C1

RDG=1846

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

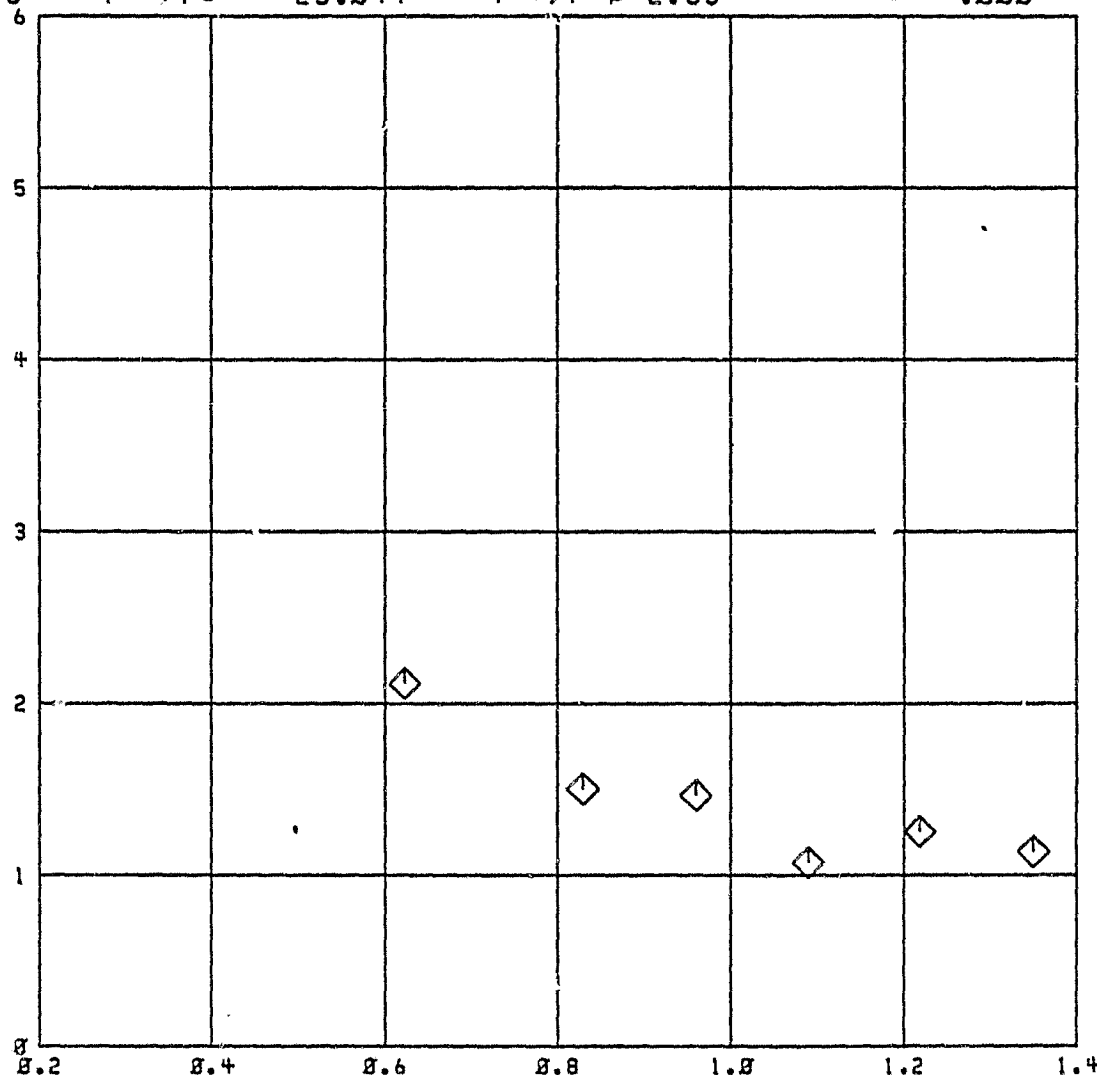
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$P_{tr}/P_0 = 25.844$

$P_{tr}/P_{tp} = 2.33$

$\omega = .008$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_t/P_0$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 14

RDG=1849

C1

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

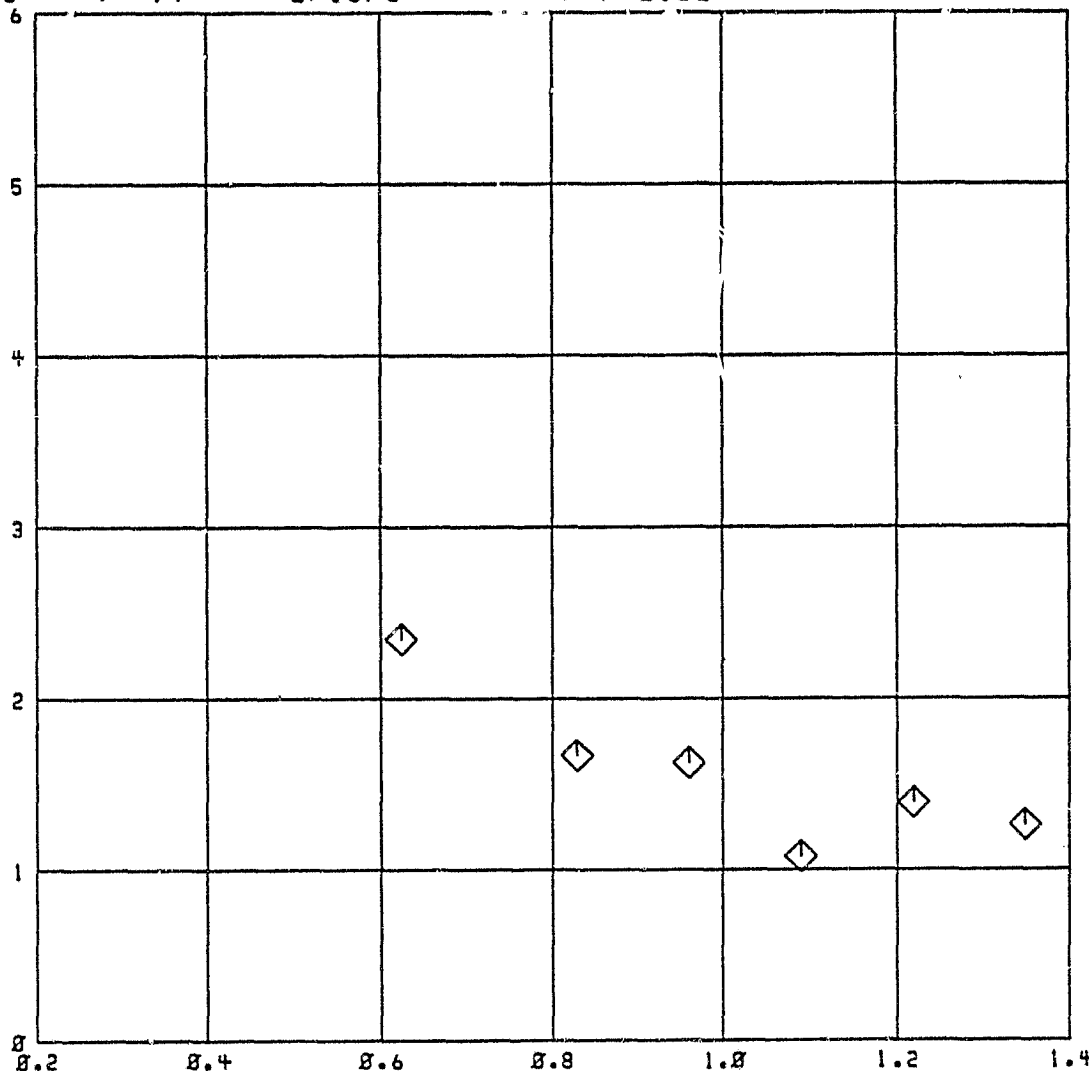
$M_o = 1.96$

$P_{tr}/P_o = 27.673$

$P_{tr}/P_o = 2.32$

$w = .888$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_o$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

C1

RUN 14

RDG=1051

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

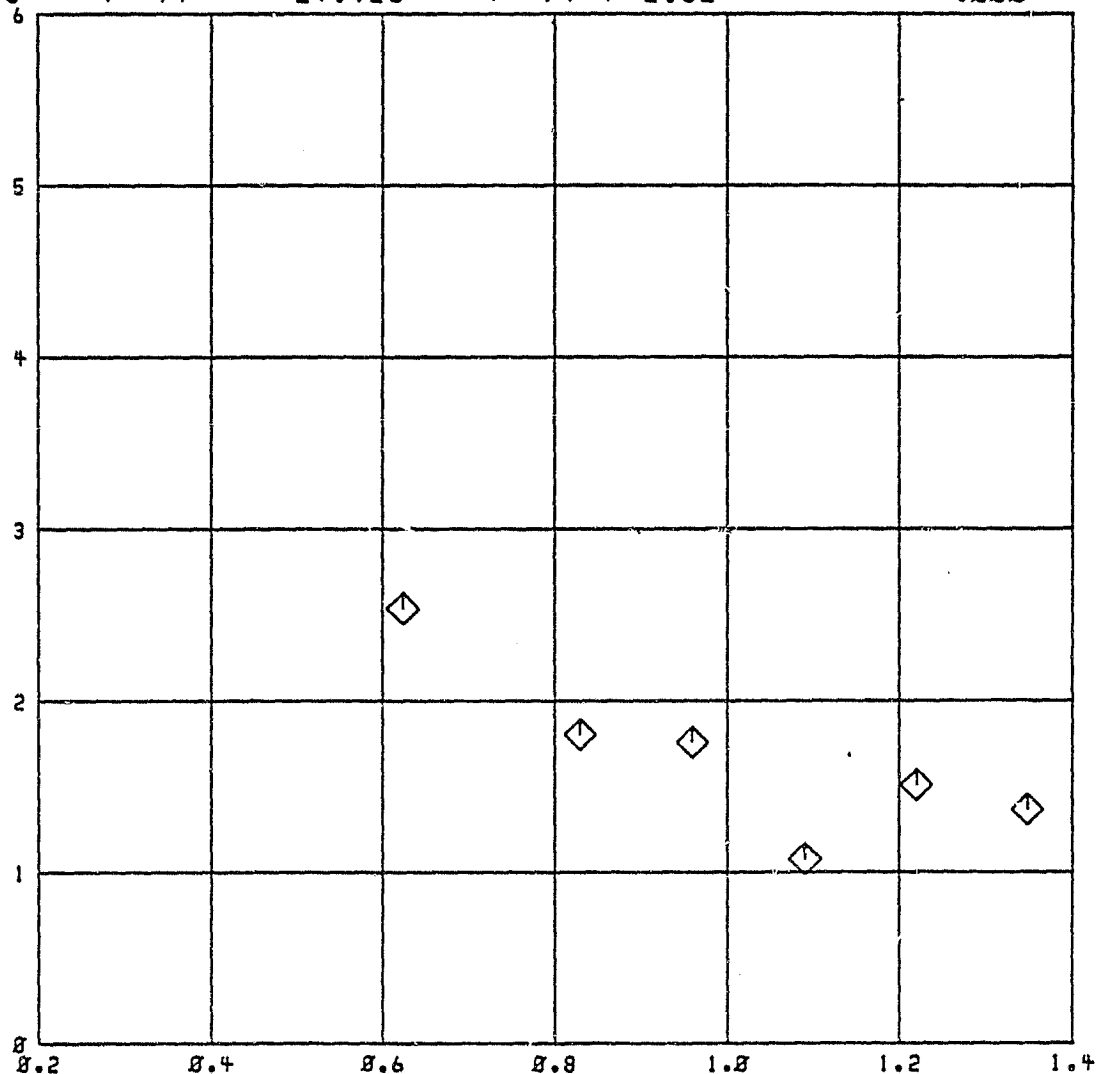
$M_0 = 1.96$

$P_{tr}/P_0 = 29.928$

$P_{tr}/P_{tp} = 2.32$

$w = .000$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_0$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RD'G 1071-1102

C1

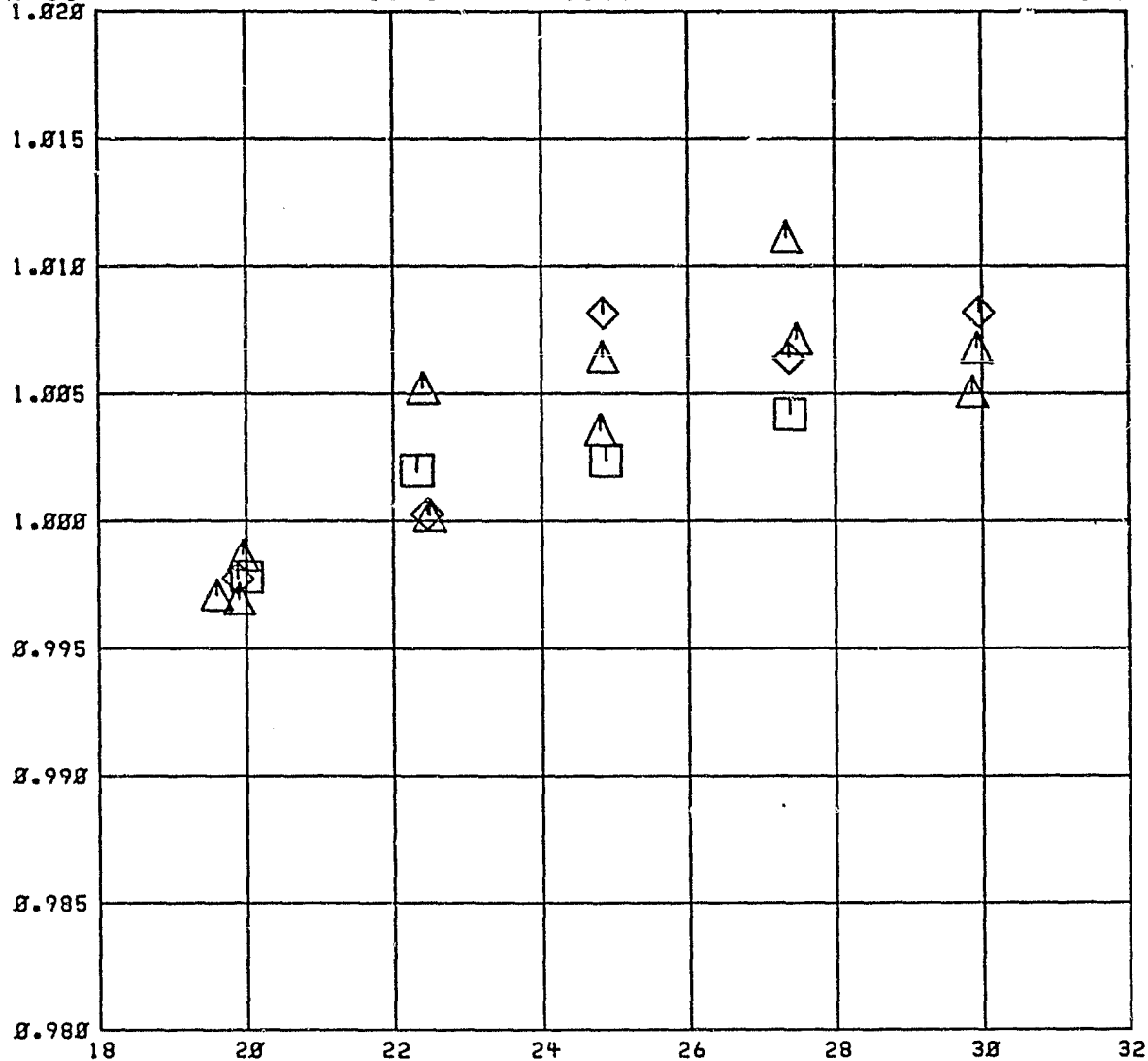
SUPERSONIC CRUISE

RUN 15  
1.828

$M = 1.96$   $w = .019$

$P_{tr}/P_{tp} = \square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

NOZZLE GROSS THRUST COEFFICIENT,  $CFPI$



FAN NOZZLE PRESSURE RATIO,  $PTF/PO$



RDG. 1071-1102

C1

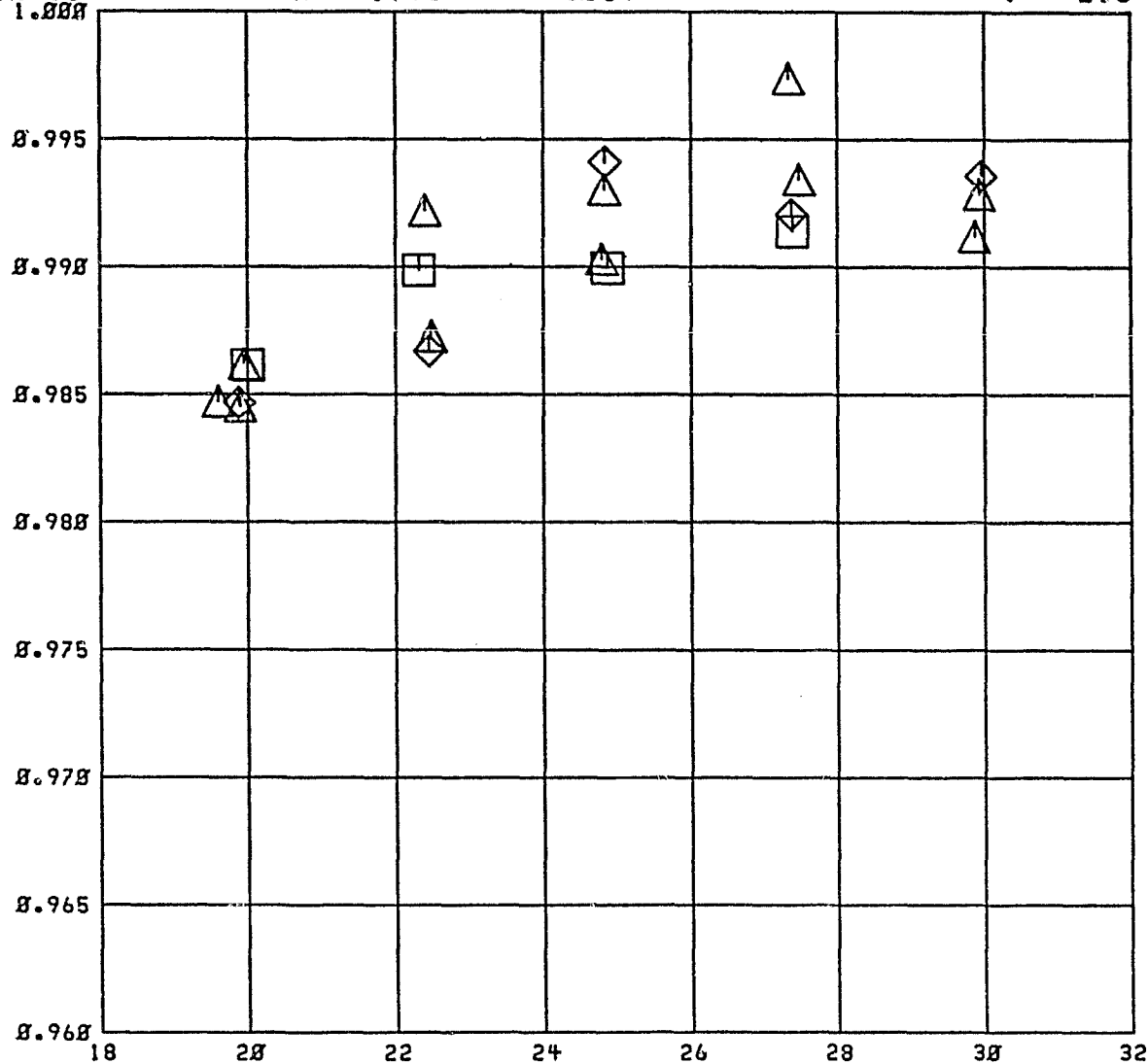
SUPERSONIC CRUISE

RUN 15  
1.888

$M_0 = 1.96$   $w = .819$

$P_{tr}/P_{tp} = \square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

NOZZLE EFFICIENCY,  $\eta_{1 INT}$



FAN NOZZLE PRESSURE RATIO,  $P_{tr}/P_0$

RD'G. 1071-1102

C1

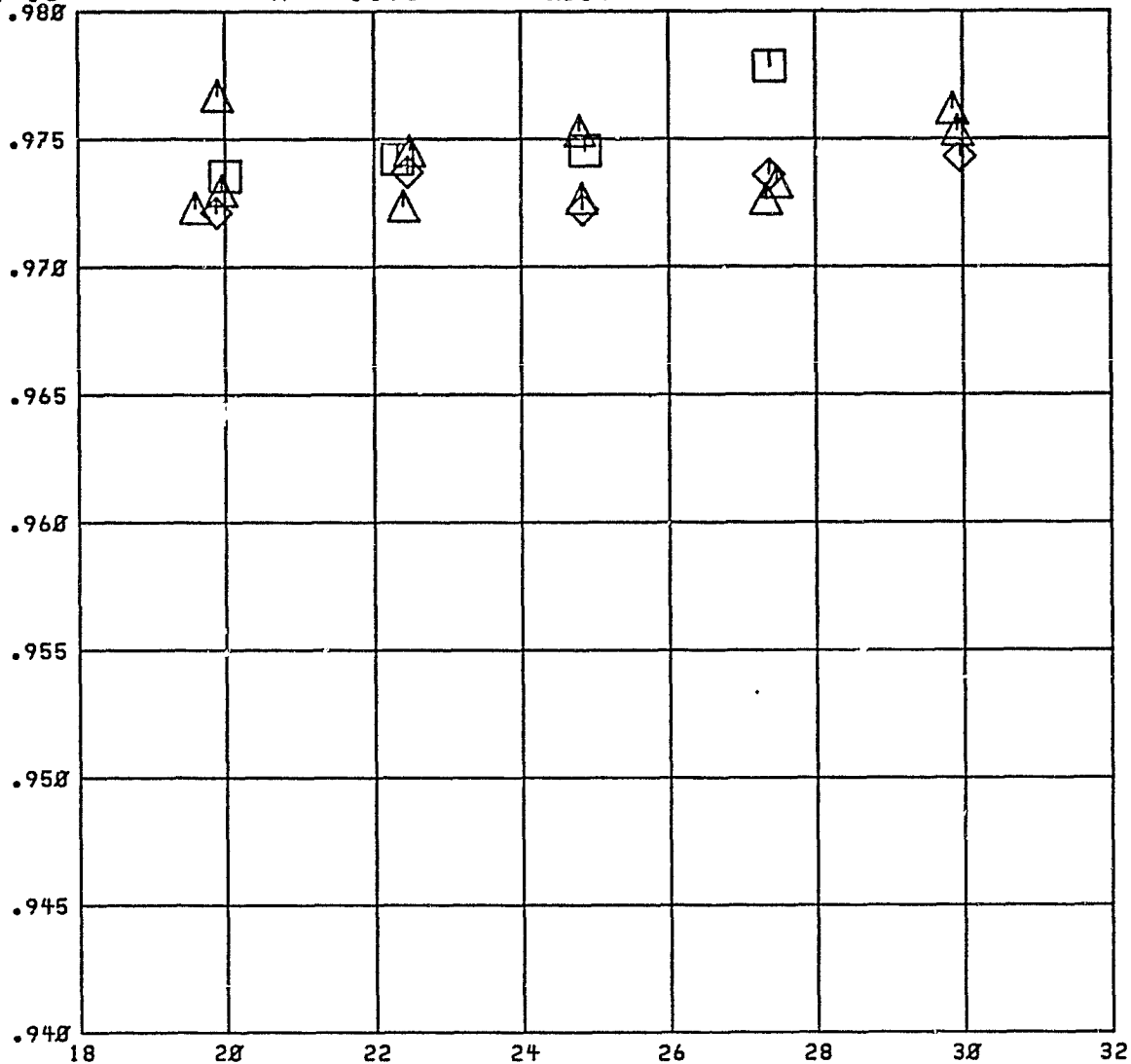
SUPERSONIC CRUISE

RUN 15

$M_\infty = 1.96$   $\omega = .019$

$P_{tr}/P_{tp} = \square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

FAN-NOZZLE FLOW COEFFICIENT, CDF



FAN NOZZLE PRESSURE RATIO,  $PTF/PO$

RDG 1071-1102

C1

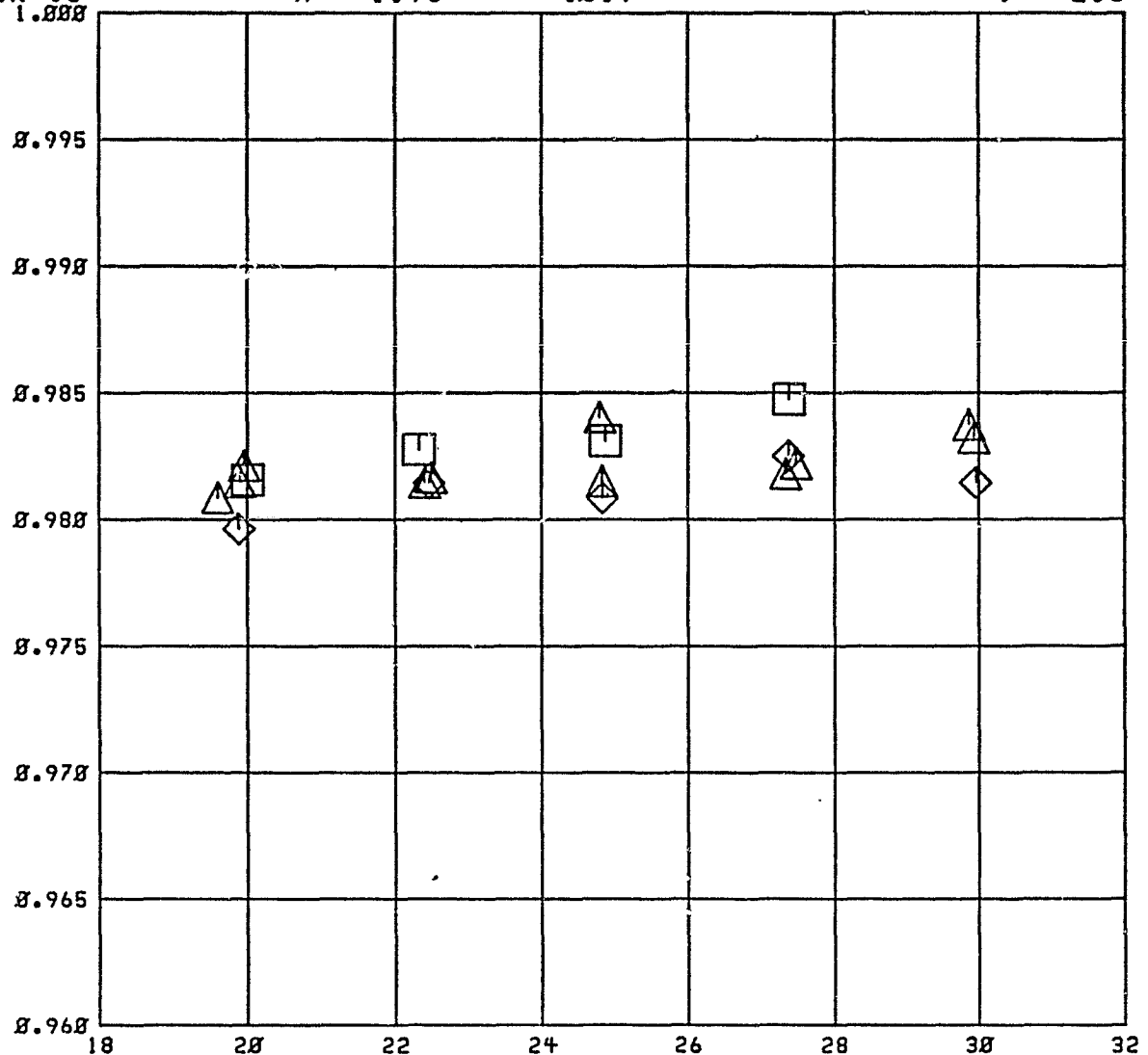
SUPERSONIC CRUISE

RUN 15

$M_0 = 1.96$   $w = .819$

$P_{tr}/P_{tp} = \square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

PRIMARY-NOZZLE FLOW COEFFICIENT, CDP



FAN NOZZLE PRESSURE RATIO,  $P_{TF}/P_0$

RD'G. 1071-1102

C1

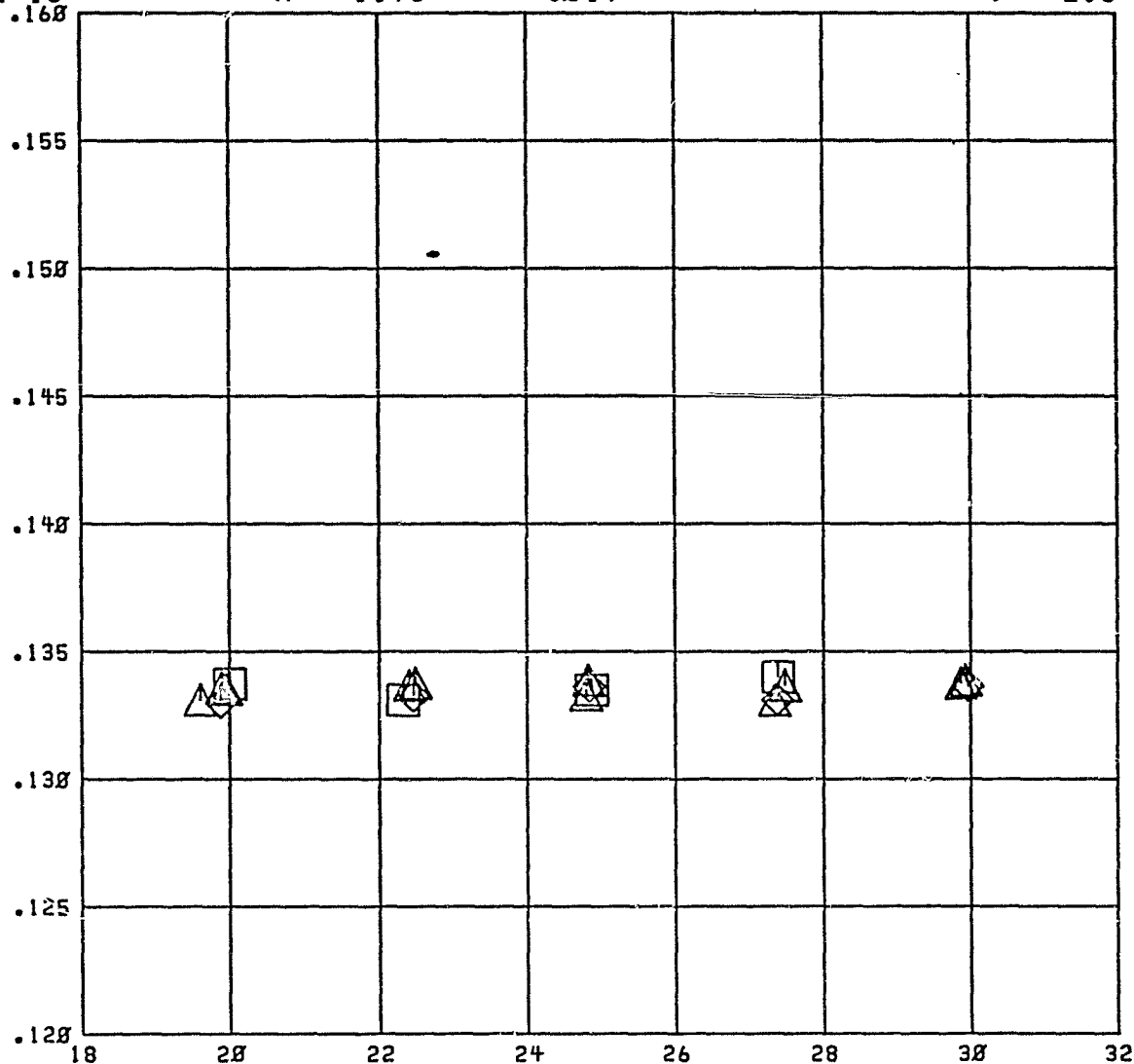
SUPERSONIC CRUISE

RUN 15  
.168

$M_\infty = 1.96$   $\omega = .819$

$P_{tr}/P_{tp} = \square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

SECONDARY TO FAN TOTAL-PRESSURE RATIO,  $P_{TS}/P_{TF}$



FAN NOZZLE PRESSURE RATIO,  $P_{TF}/P_0$

RUN 15

RDG=1084

C1

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

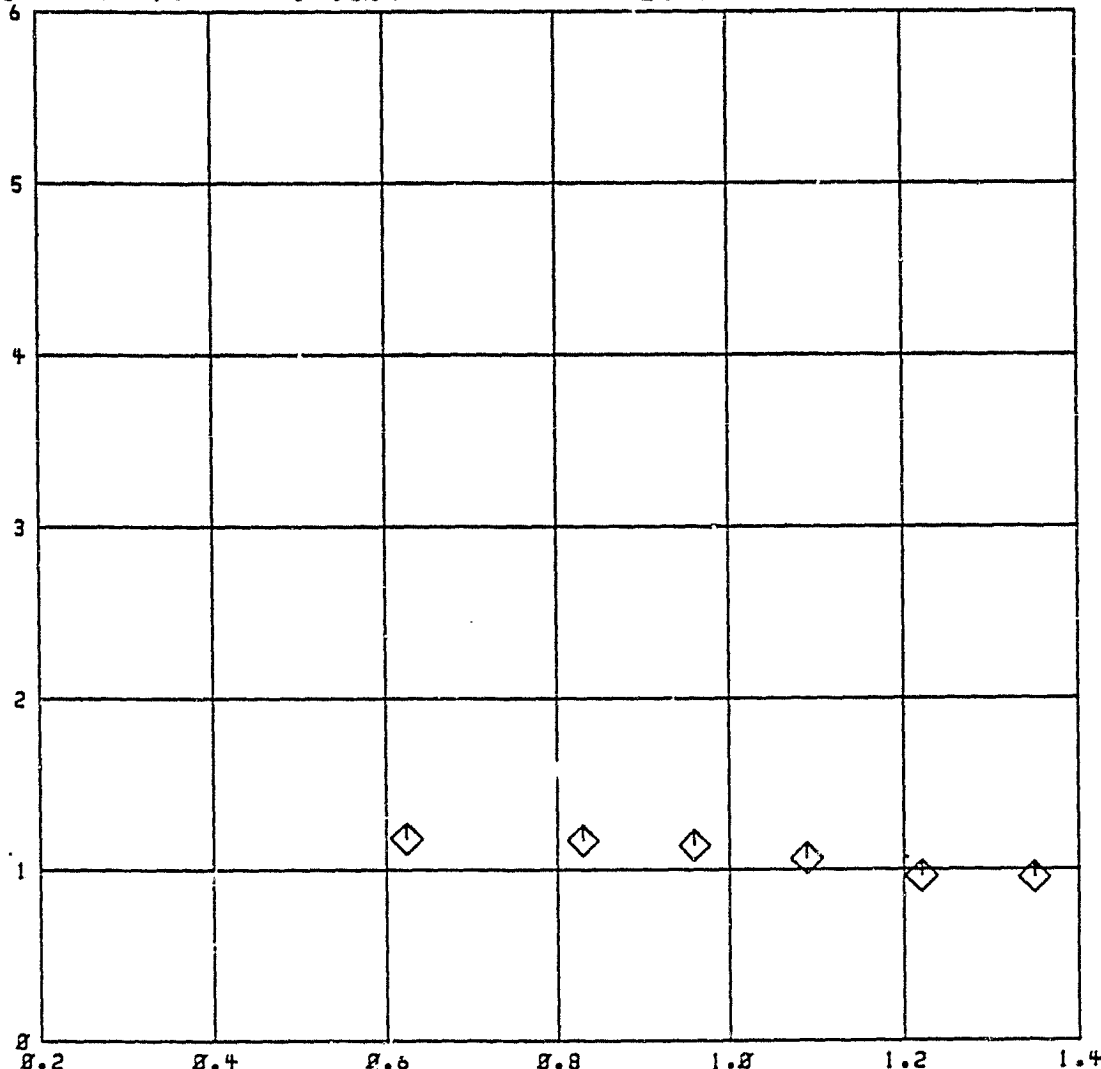
$M_0 = 1.96$

$P_{tr}/P_0 = 19.684$

$P_{tr}/P_{tp} = 2.31$

$w = .819$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_0$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

C1

RUN 15

RDG=1088

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

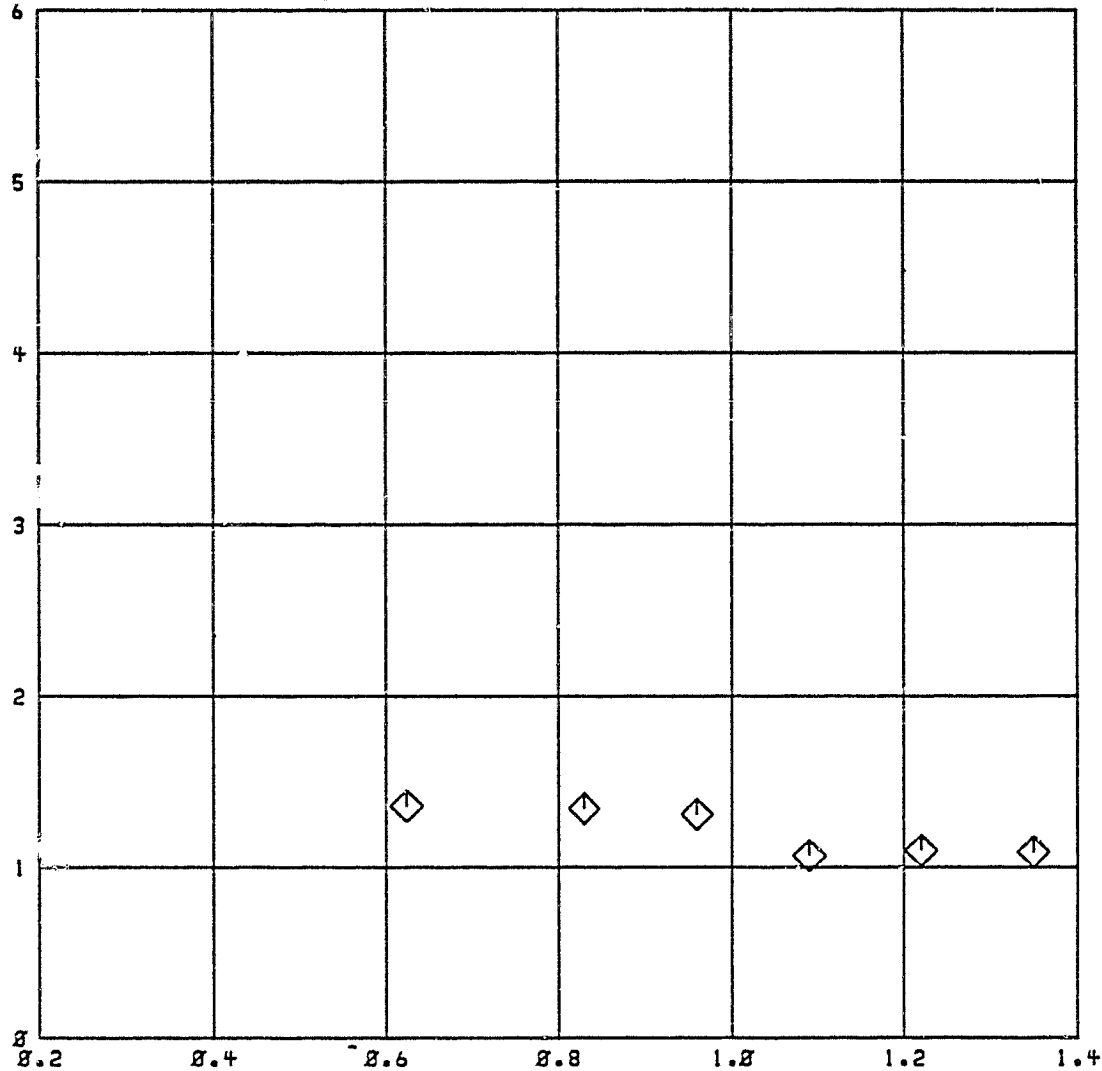
$M_0 = 1.96$

$P_{tr}/P_0 = 22.492$

$P_{tr}/P_{tp} = 2.31$

$\omega = .019$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_0$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 15

C1

RDG=1891

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

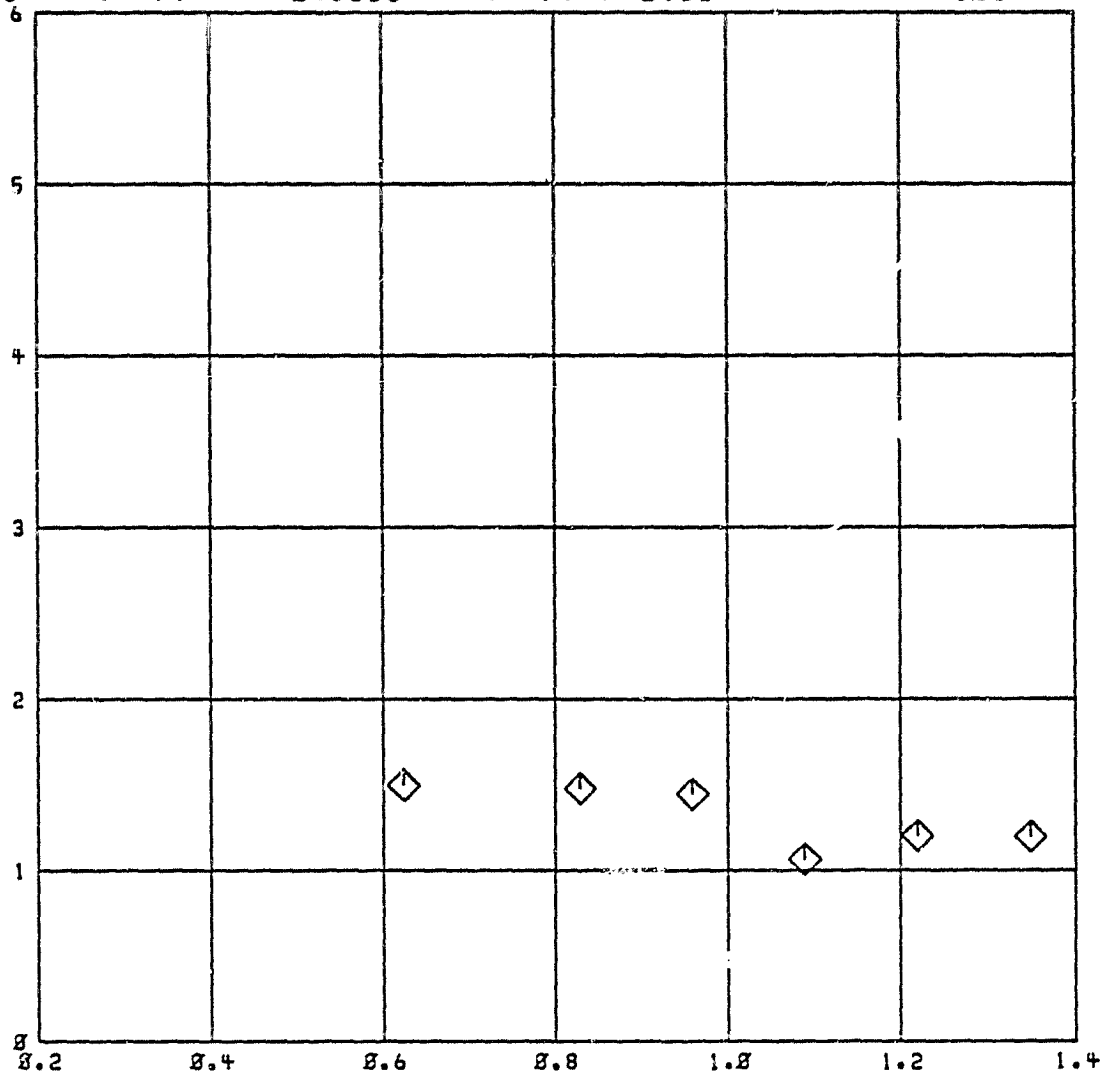
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$P_{tC}/P_o = 24.836$

$P_{tC}/P_{tP} = 2.33$

$\omega = .019$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_t/P_o$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 15

C1

RDG=1894

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

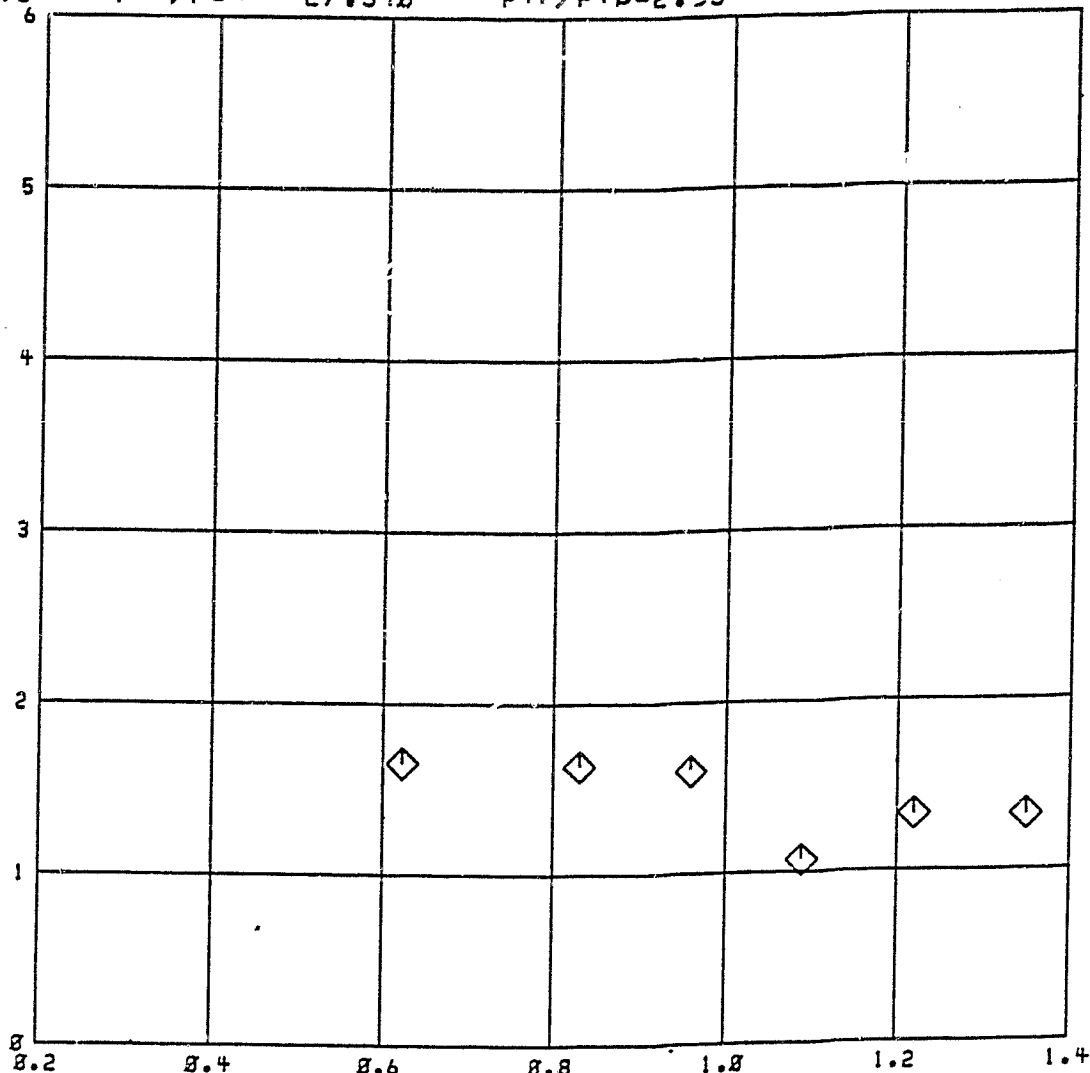
$M_0 = 1.96$

$P_{tr}/P_0 = 27.348$

$P_{tr}/P_{trp} = 2.23$

$\omega = .019$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_0$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

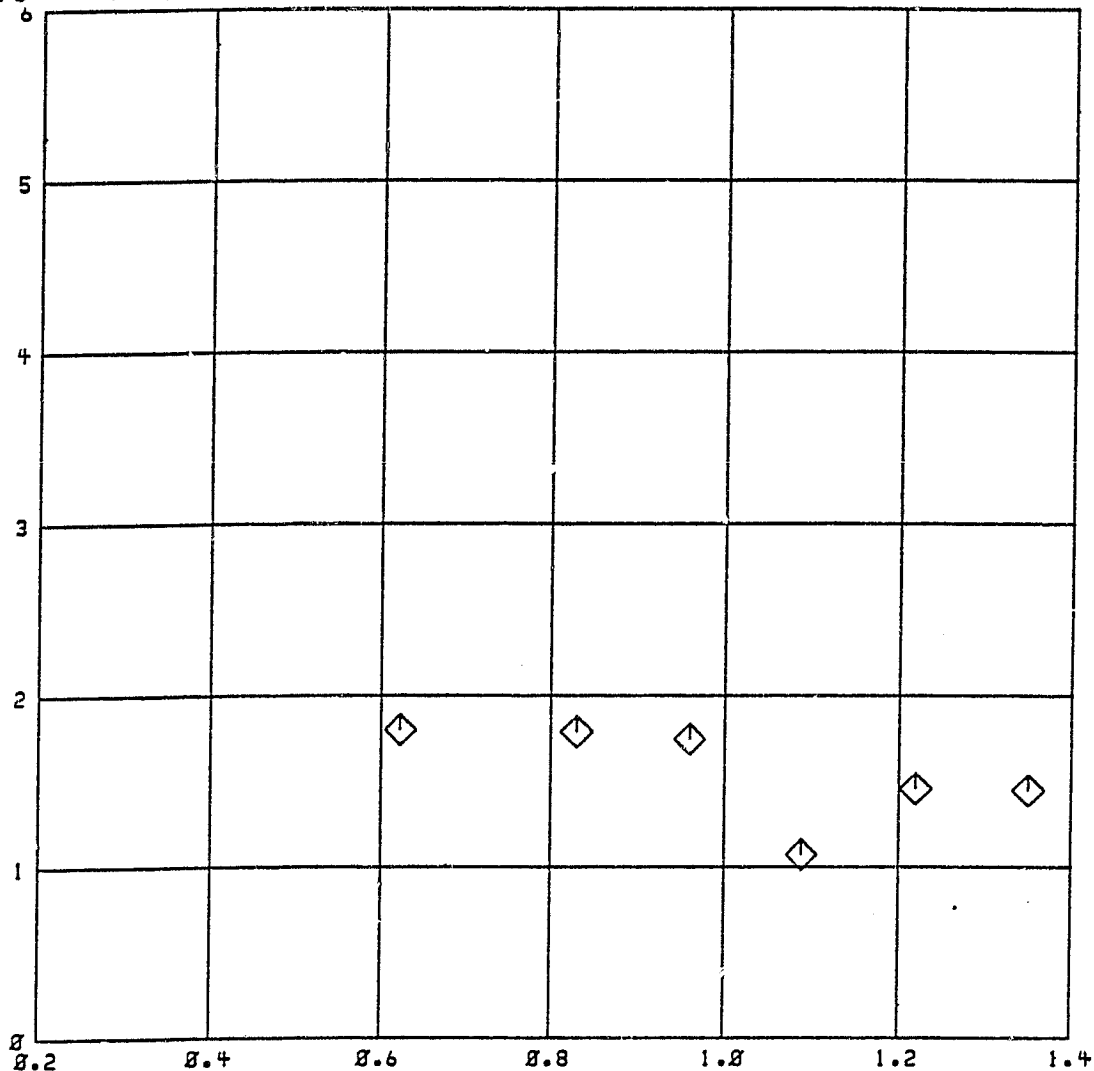


C1

RUN 15

RDG=1896

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

 $M_o = 1.96$  $P_{tr}/P_o = 29.878$  $P_{tr}/P_{tp} = 2.32$  $\omega = .819$ LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_o$ PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RD'G. 1103-1144

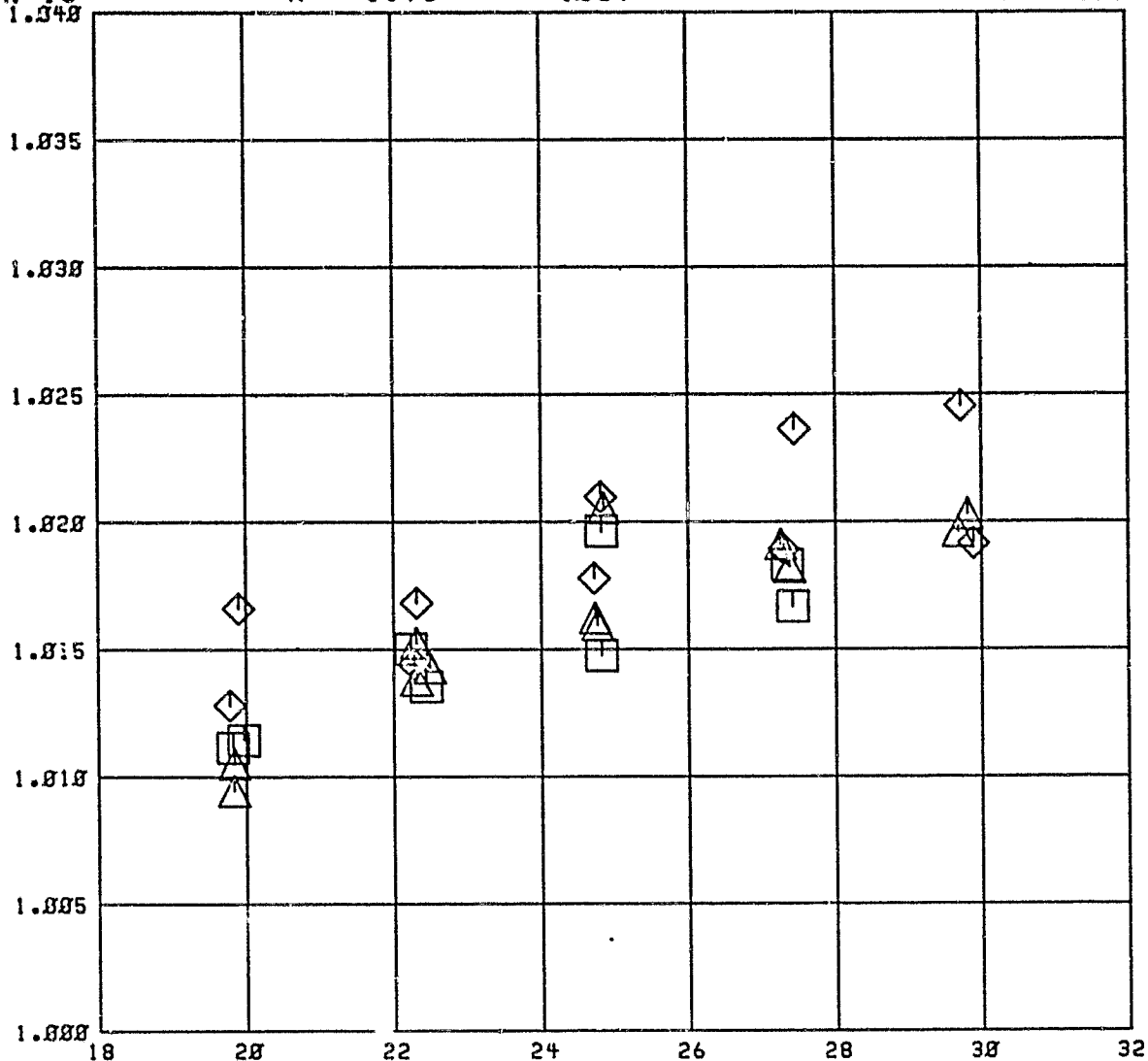
C1  
SUPERSONIC CRUISE

RUN 16  
1.348

$M_0 = 1.96$   $w = .039$

$P_{tr}/P_{tp} = \square = 2.0$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

NOZZLE GROSS THRUST COEFFICIENT,  $CFP_1$



FAN NOZZLE PRESSURE RATIO,  $PTF/PO$

RDG. 1103 - 1144

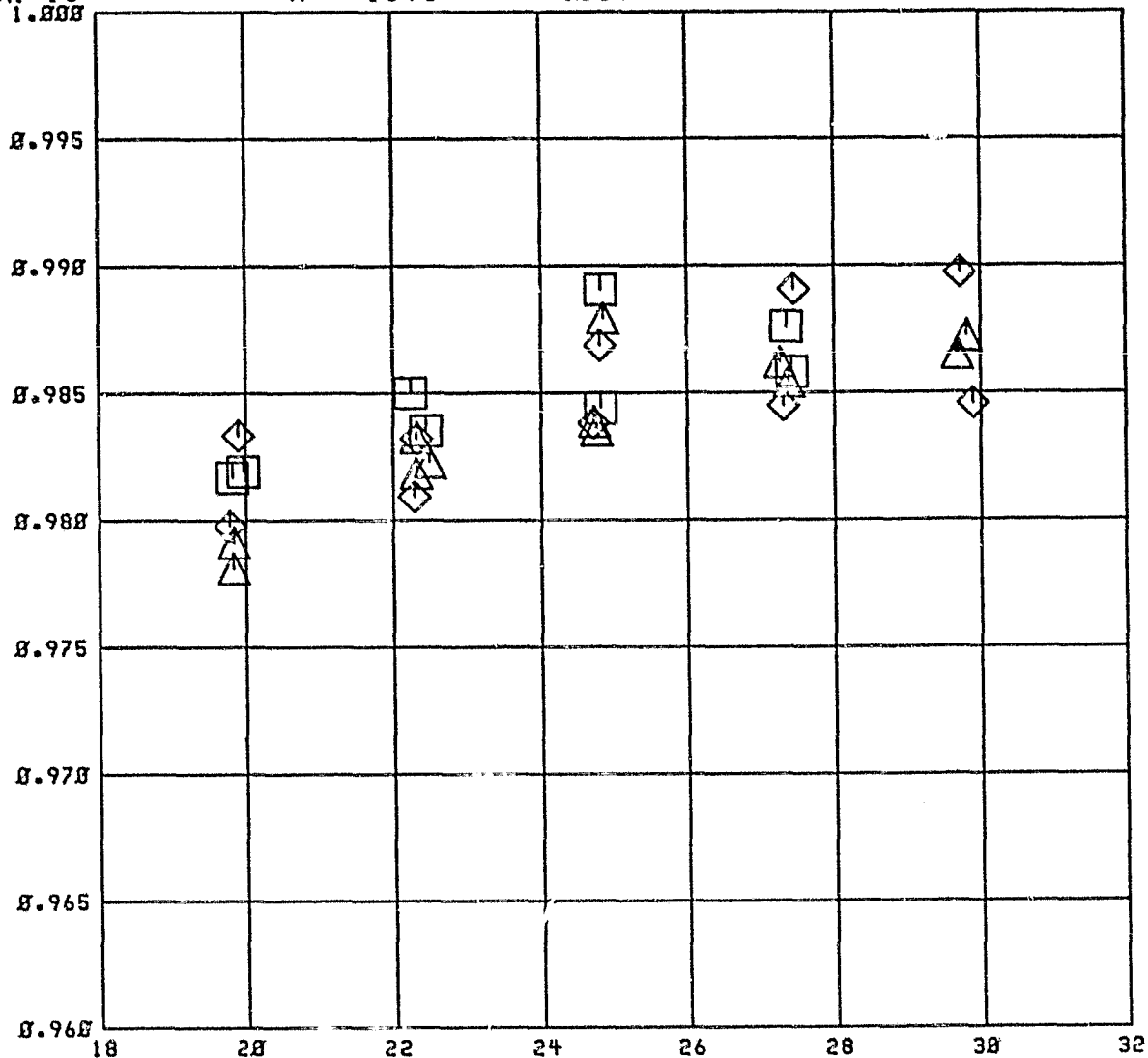
C1  
SUPERSONIC CRUISE

RUN 16  
1.888

$M_\infty = 1.96$   $\omega = .839$

$P_{tr}/P_{tp} =$   $\square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

NOZZLE EFFICIENCY,  $\eta_{N1}$



FAN NOZZLE PRESSURE RATIO,  $P_{tr}/P_0$

RDC. 1103-1144

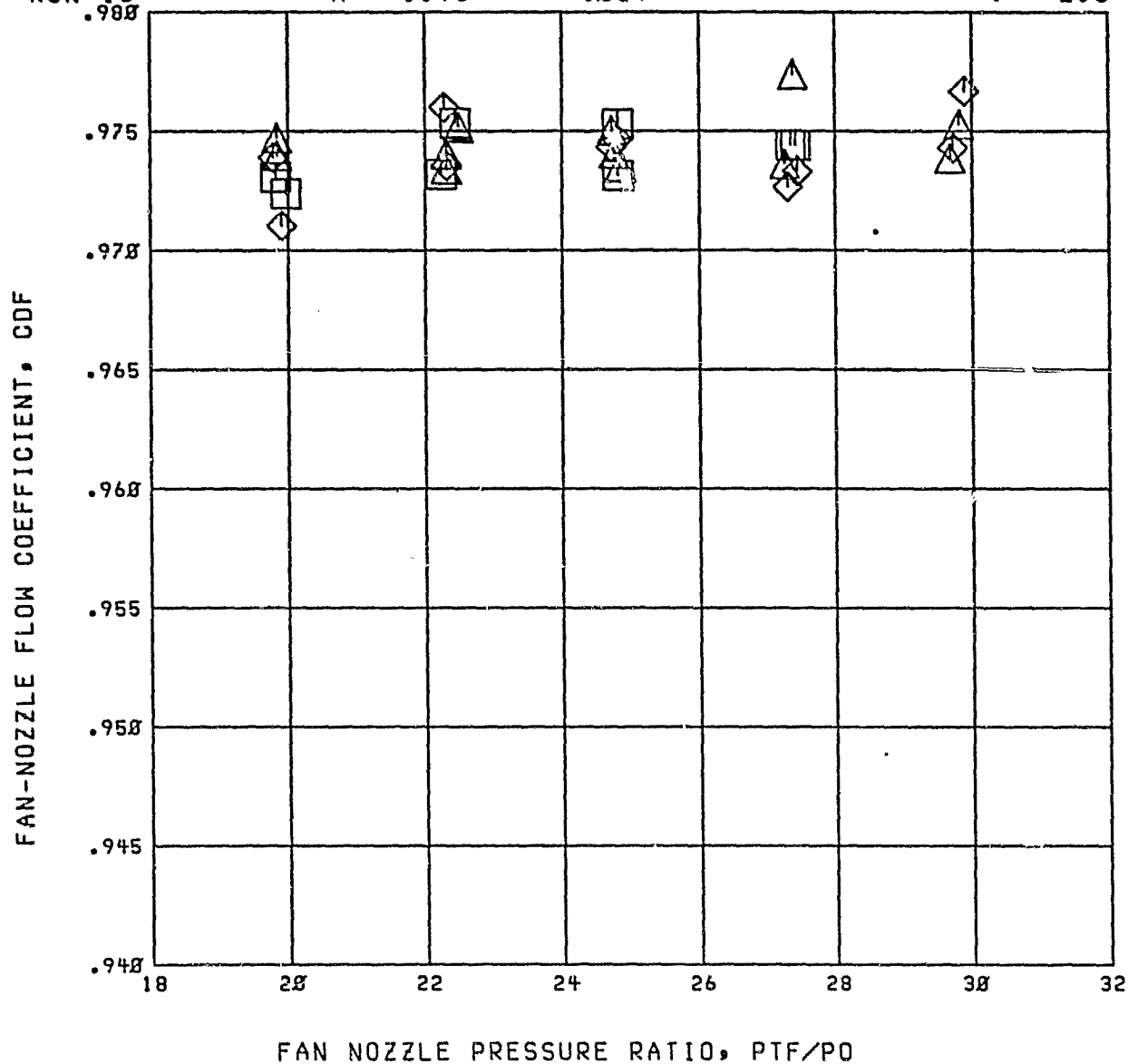
C1

SUPERSONIC CRUISE

RUN 16

$M_0 = 1.96$   $\omega = .839$

$P_{tr}/P_{tp} = \square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$



RDG. 1103-1144

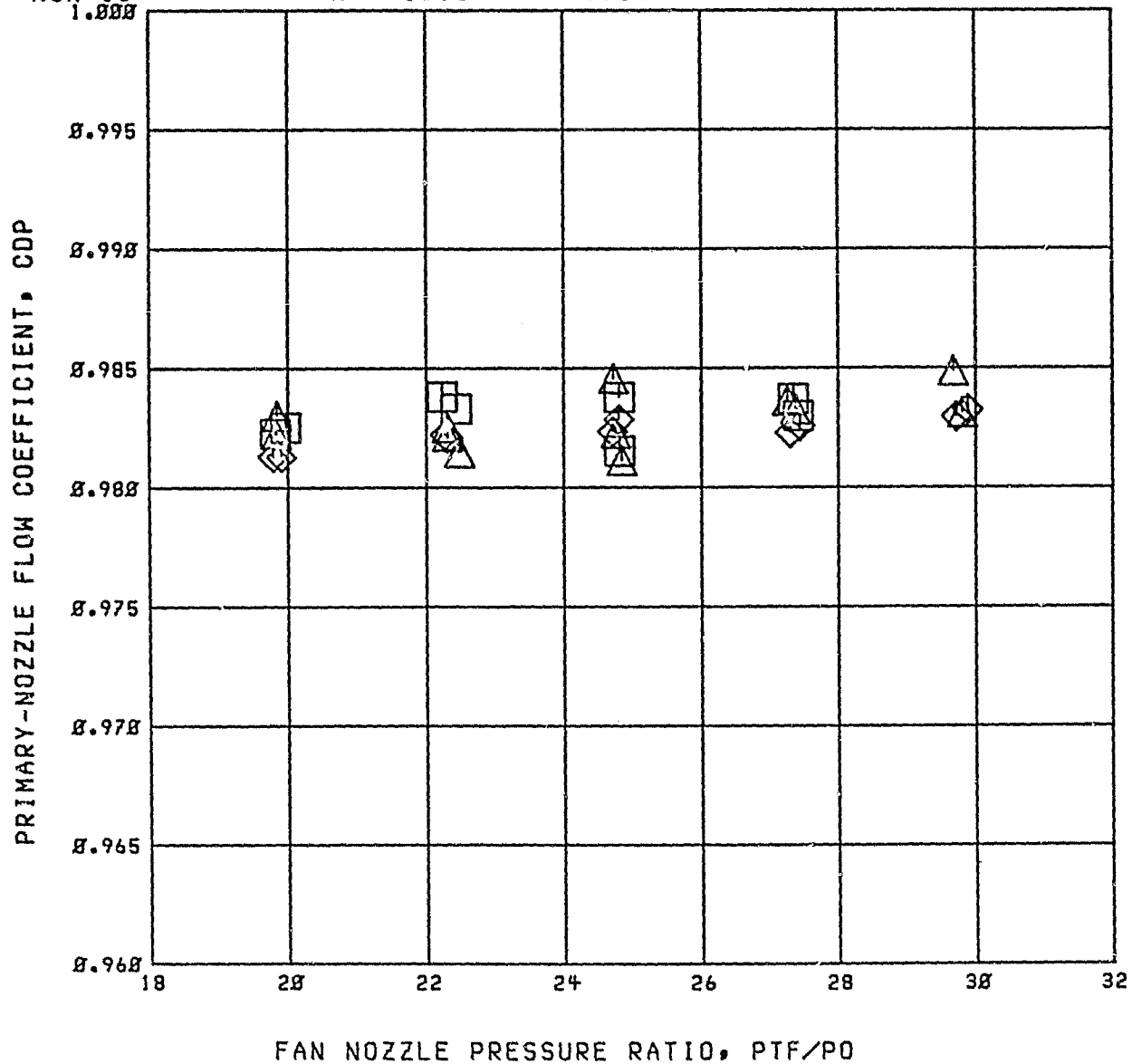
C1

SUPERSONIC CRUISE

RUN 16  
1.000

$M_0 = 1.96$   $\omega = .839$

$P_{tr}/P_{tp} = \square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$



C1

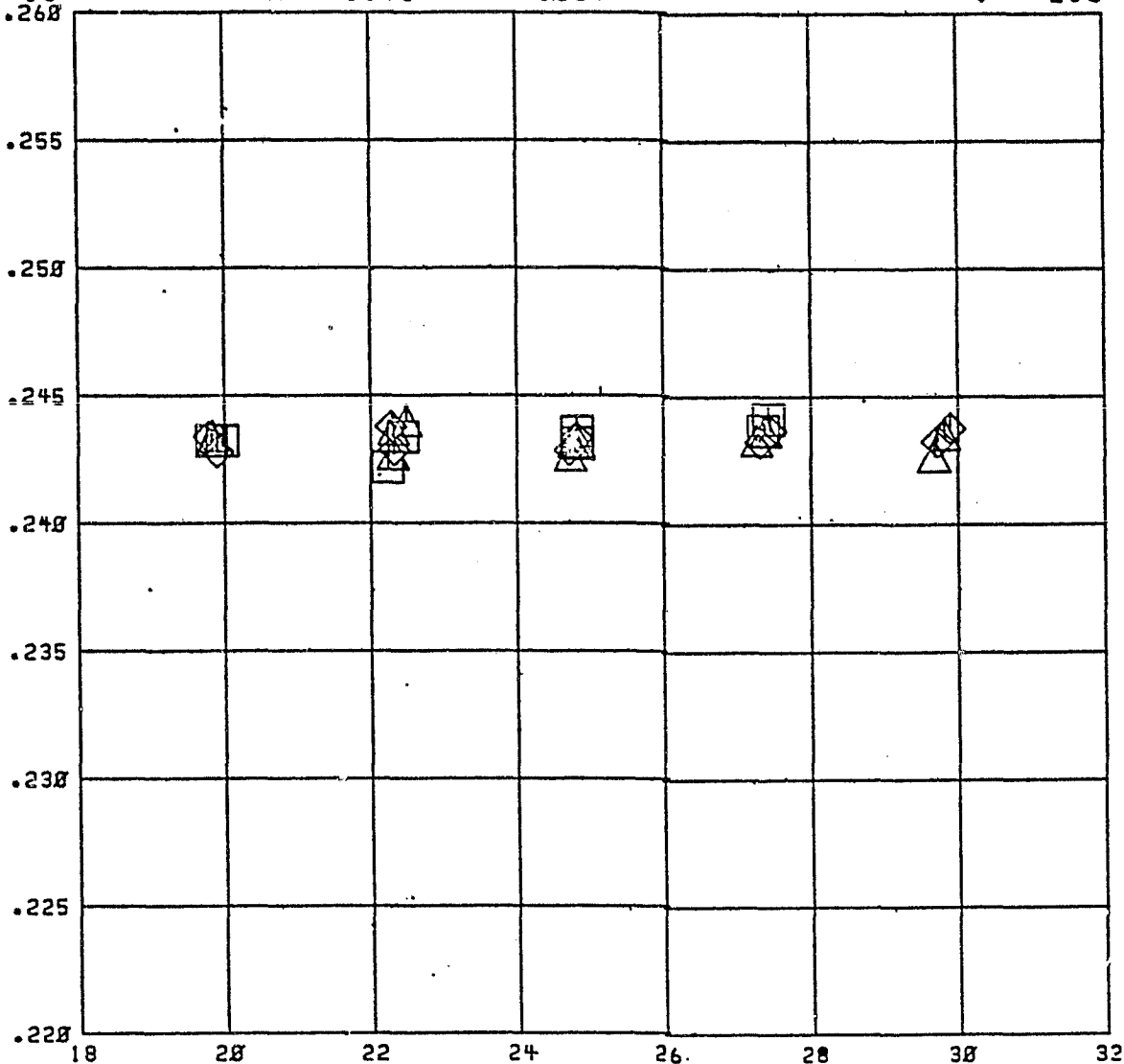
SUPERSONIC CRUISE

RUN 16

$M_0 = 1.96$   $\omega = .039$

$P_{tr}/P_{tp} = \square = 2.0$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

SECONDARY TO FAN TOTAL-PRESSURE RATIO,  $P_{ts}/P_{tf}$



FAN NOZZLE PRESSURE RATIO,  $P_{tf}/P_0$

RUN 16

C1

RDG=1116

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

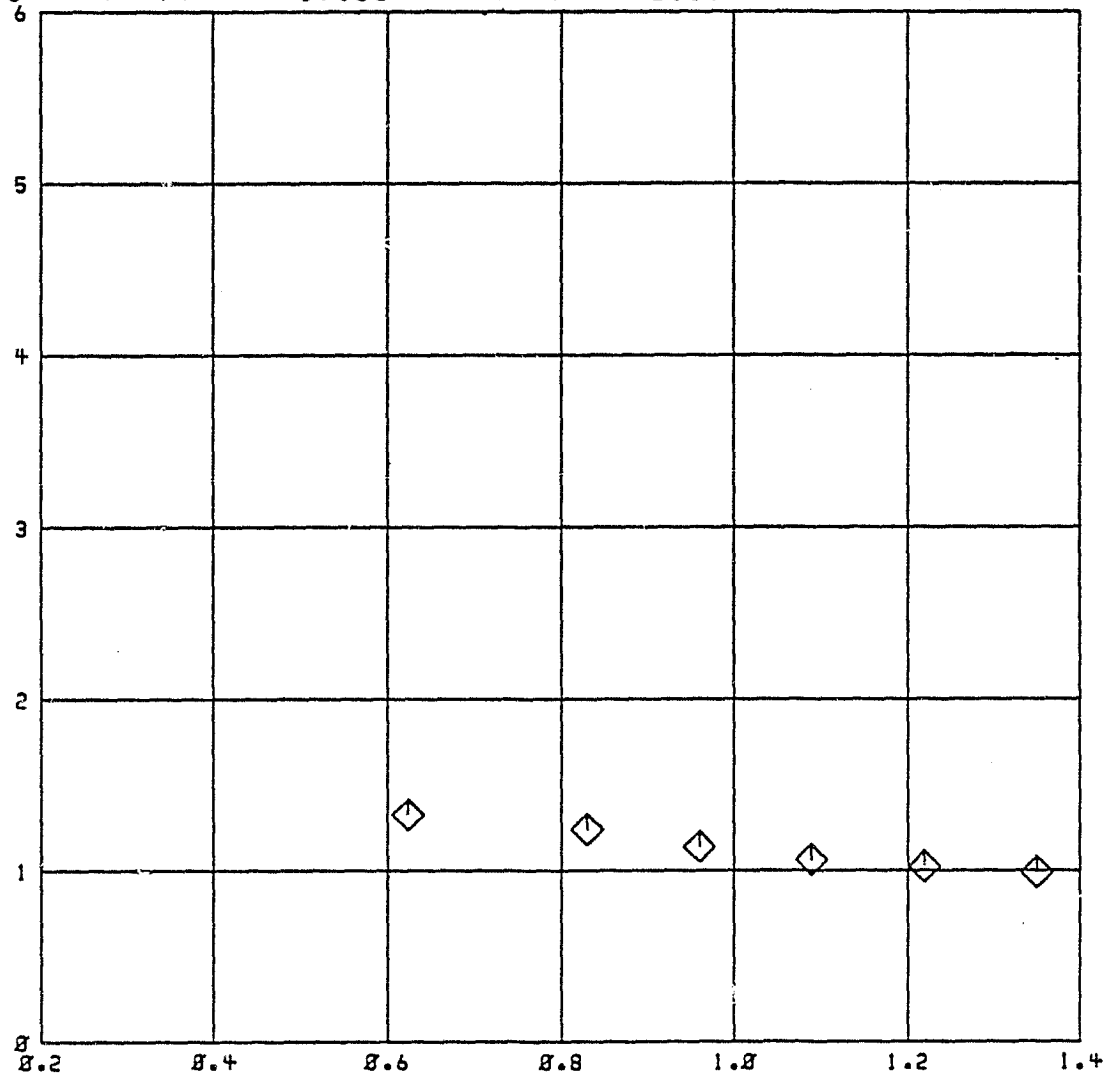
$M_0 = 1.96$

$P_{tr}/P_0 = 19.839$

$P_{tr}/P_{tp} = 2.31$

$w = .039$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_0$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 16

C1

RDG=1119

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

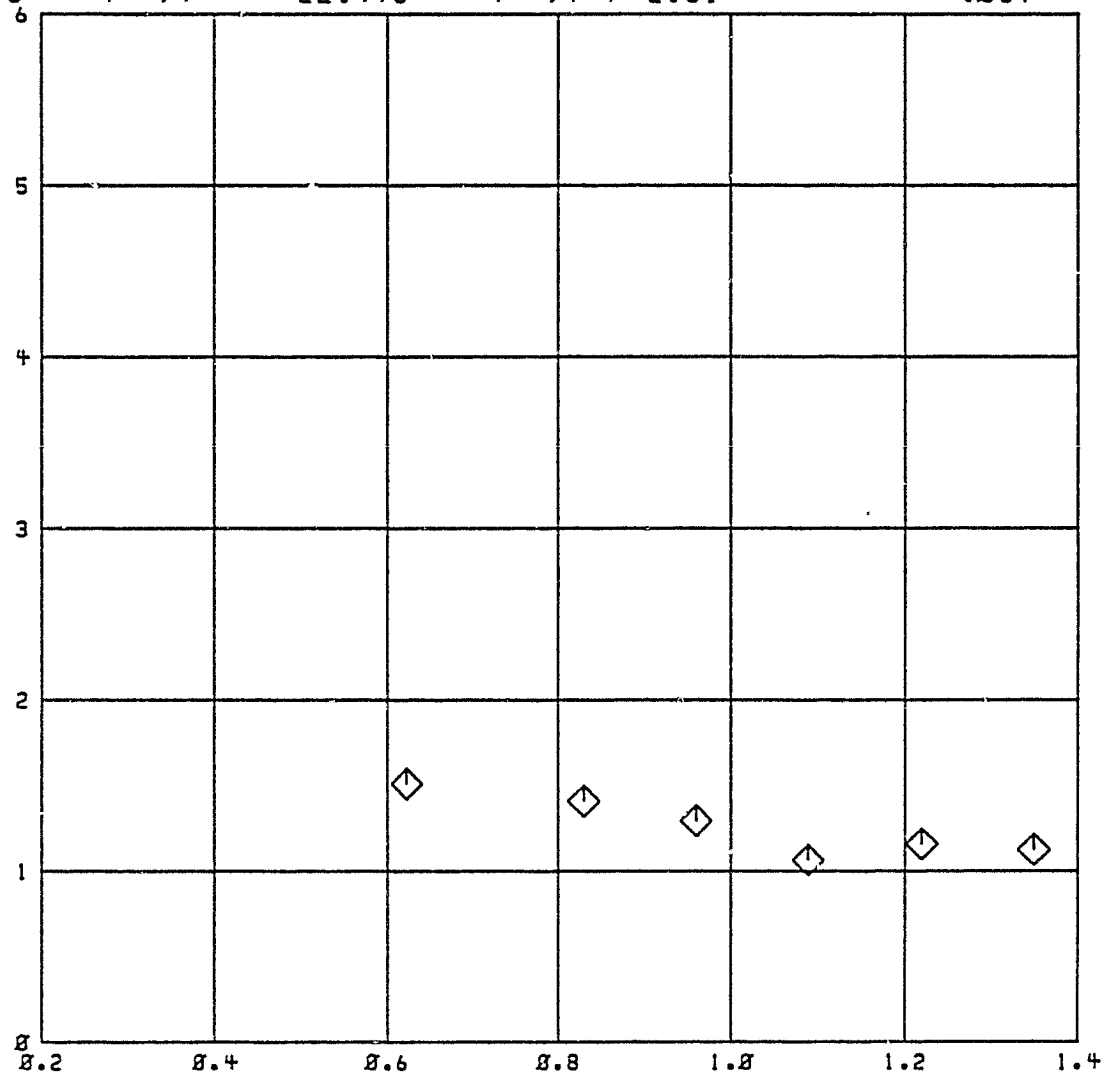
$M_0 = 1.96$

$P_{tr}/P_0 = 22.493$

$P_{tr}/P_{tp} = 2.31$

$\omega = .039$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_t/P_0$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$



Run 16

RDG=1123

C1

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

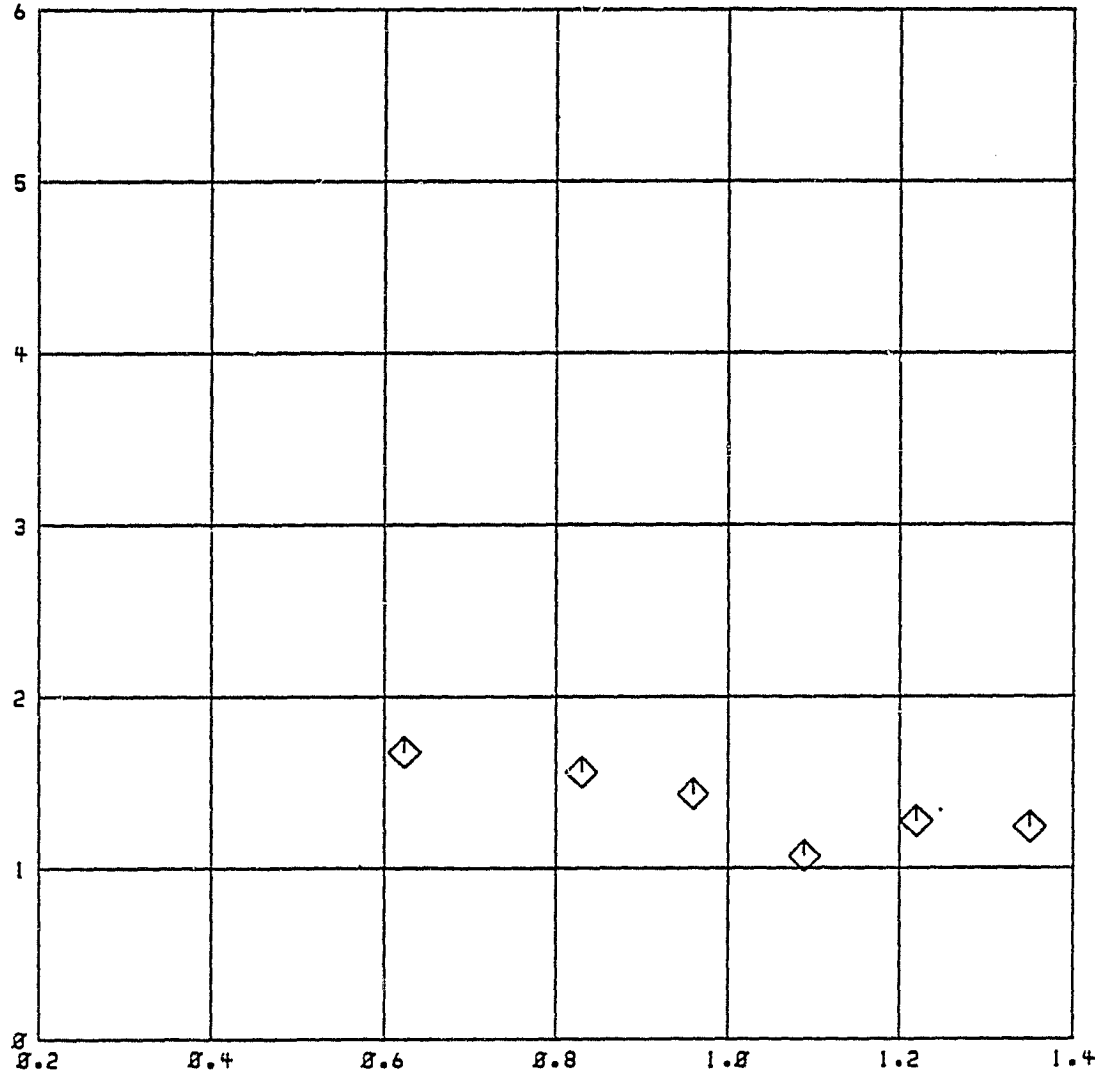
$M_0 = 1.96$

$P_{tr}/P_0 = 24.856$

$P_{tr}/P_{tp} = 2.32$

$\omega = .839$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_0$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

Run 16

RDG=1126

C1

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

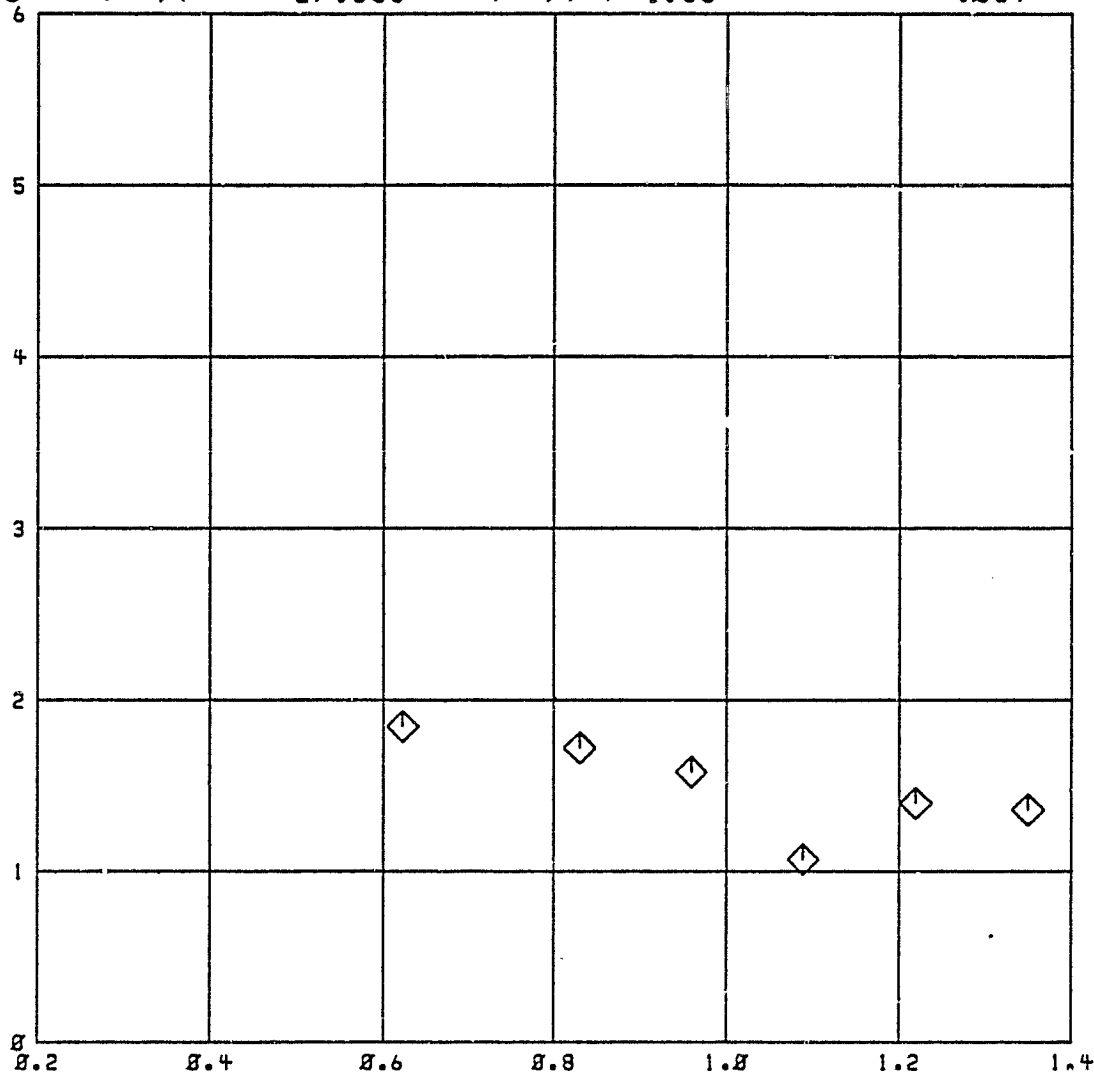
$M_0 = 1.96$

$P_{tr}/P_0 = 27.383$

$P_{tr}/P_{tp} = 2.33$

$\omega = .039$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_1/P_0$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 16

C1

RDG=1128

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

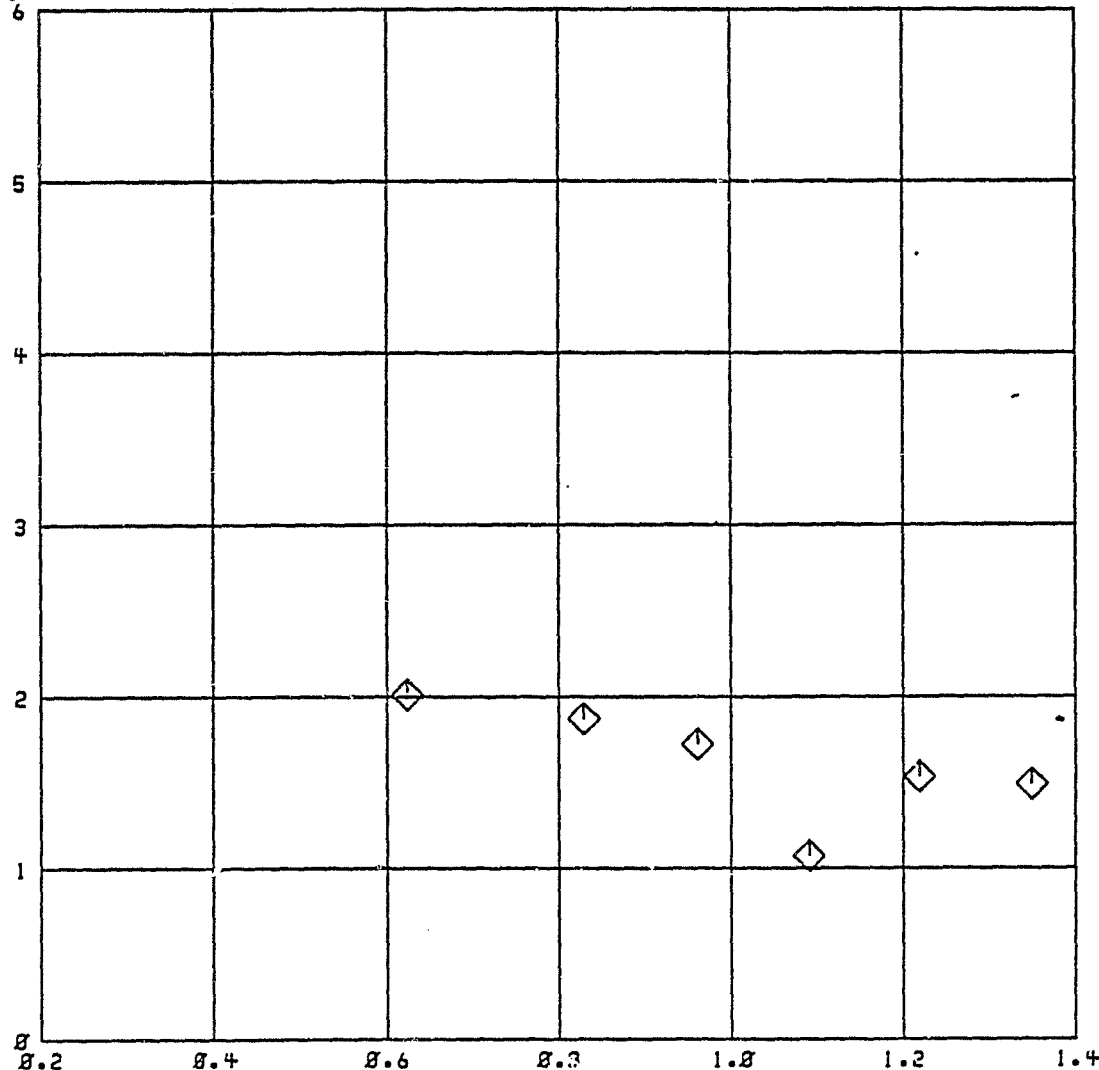
$M_o = 1.96$

$P_{tr}/P_o = 29.813$

$P_{tr}/P_{tp} = 2.32$

$w = .839$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_o$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

**CONFIGURATION A1**  
**IRIS FLAP NOZZLE**  
**SUPERSONIC CRUISE**

ROG. 1155-1184

A1

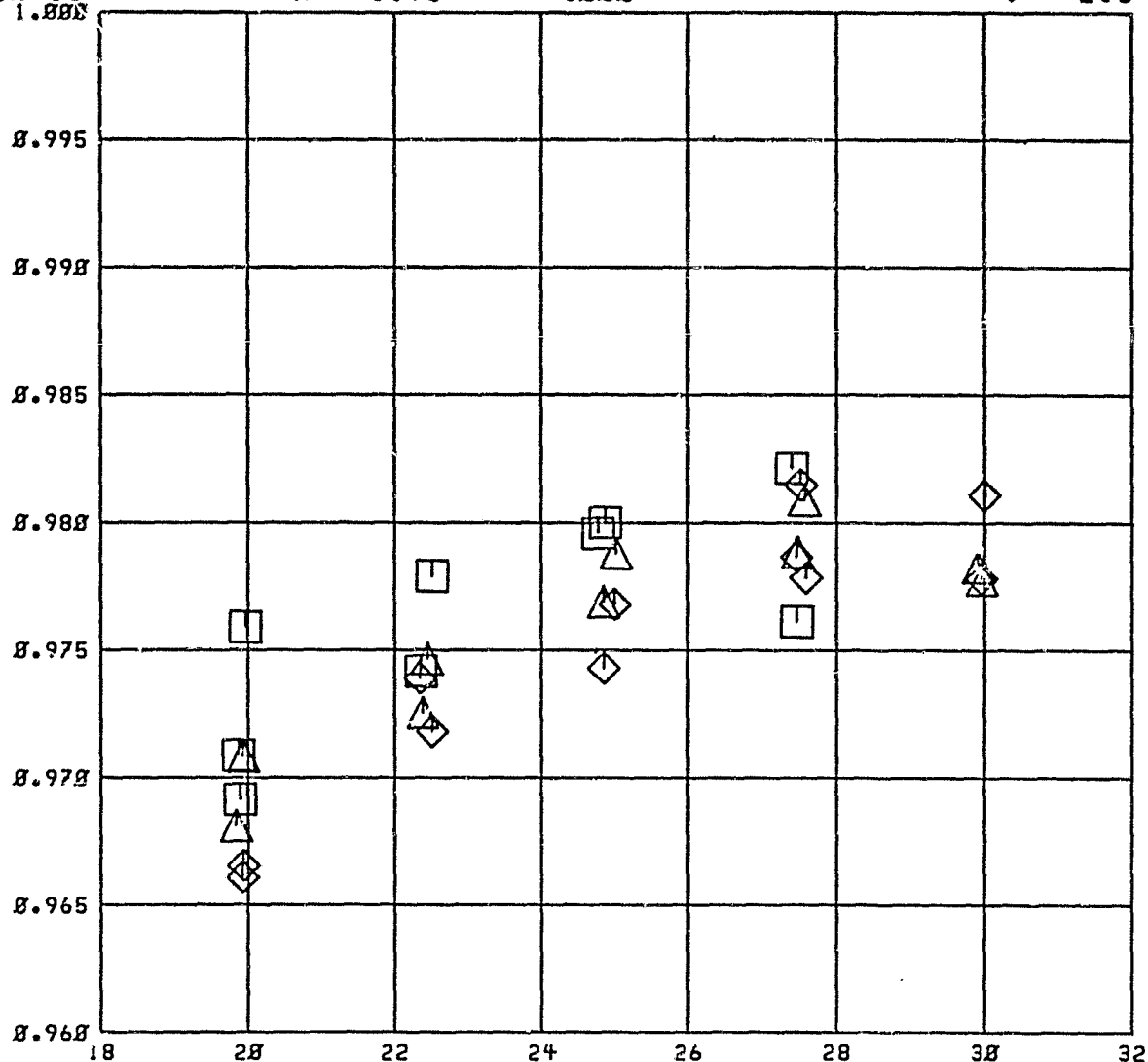
SUPERSONIC CRUISE

RUN 18  
1.888

$M_0 = 1.96$   $w = .888$

$P_{tC}/P_{tP} =$   $\square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

NOZZLE GROSS THRUST COEFFICIENT, CFP1



FAN NOZZLE PRESSURE RATIO, PTF/PO

ROG. 1155-1184

A1

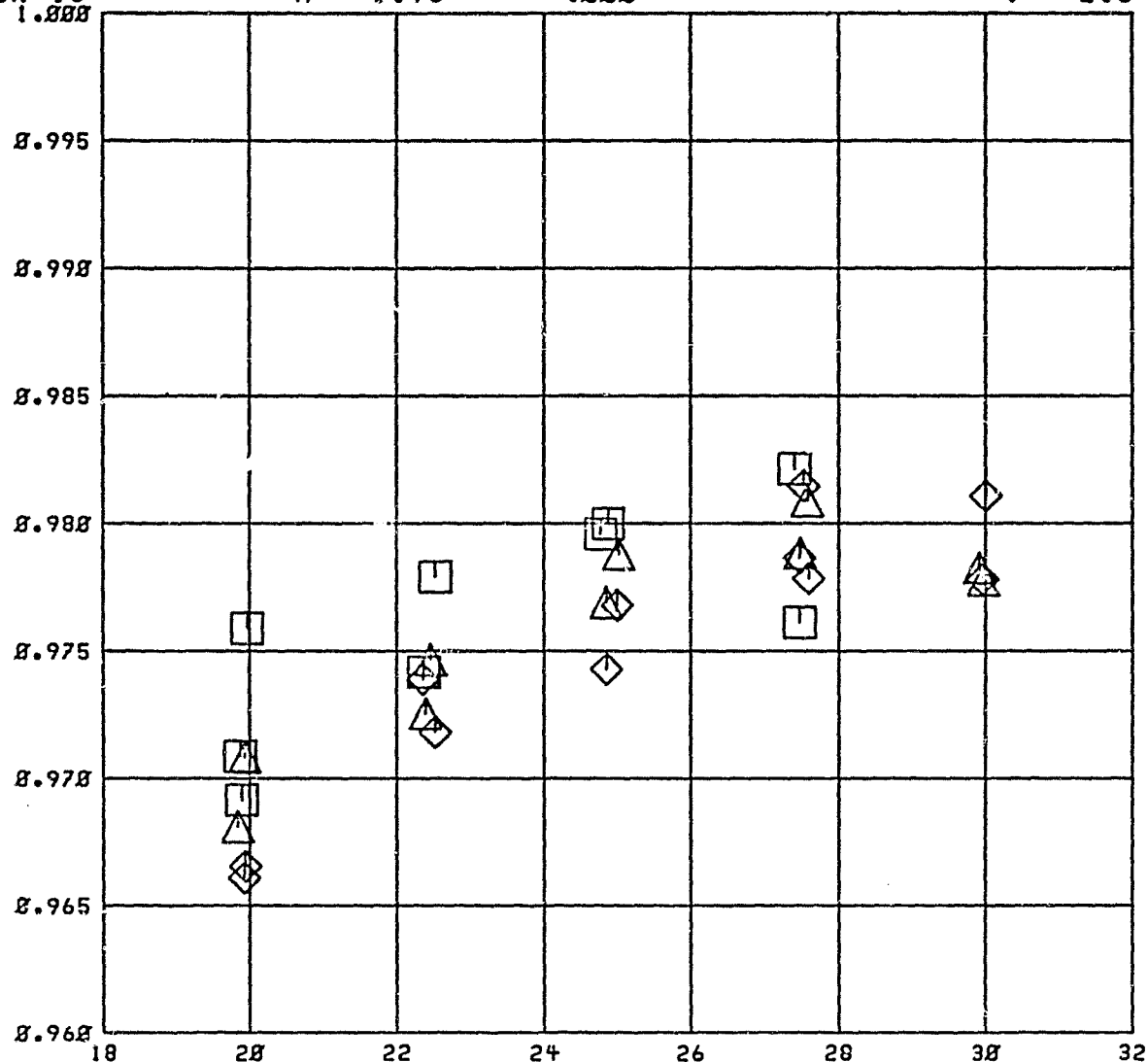
SUPERSONIC CRUISE

RUN 18  
1.000

$M_0 = 1.96$   $w = .000$

$P_{tr}/P_{ip} = \square = 2.0$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

NOZZLE EFFICIENCY,  $\eta_{I INT}$



FAN NOZZLE PRESSURE RATIO,  $P_{tr}/P_0$

Rdg. 1155-1184

A1

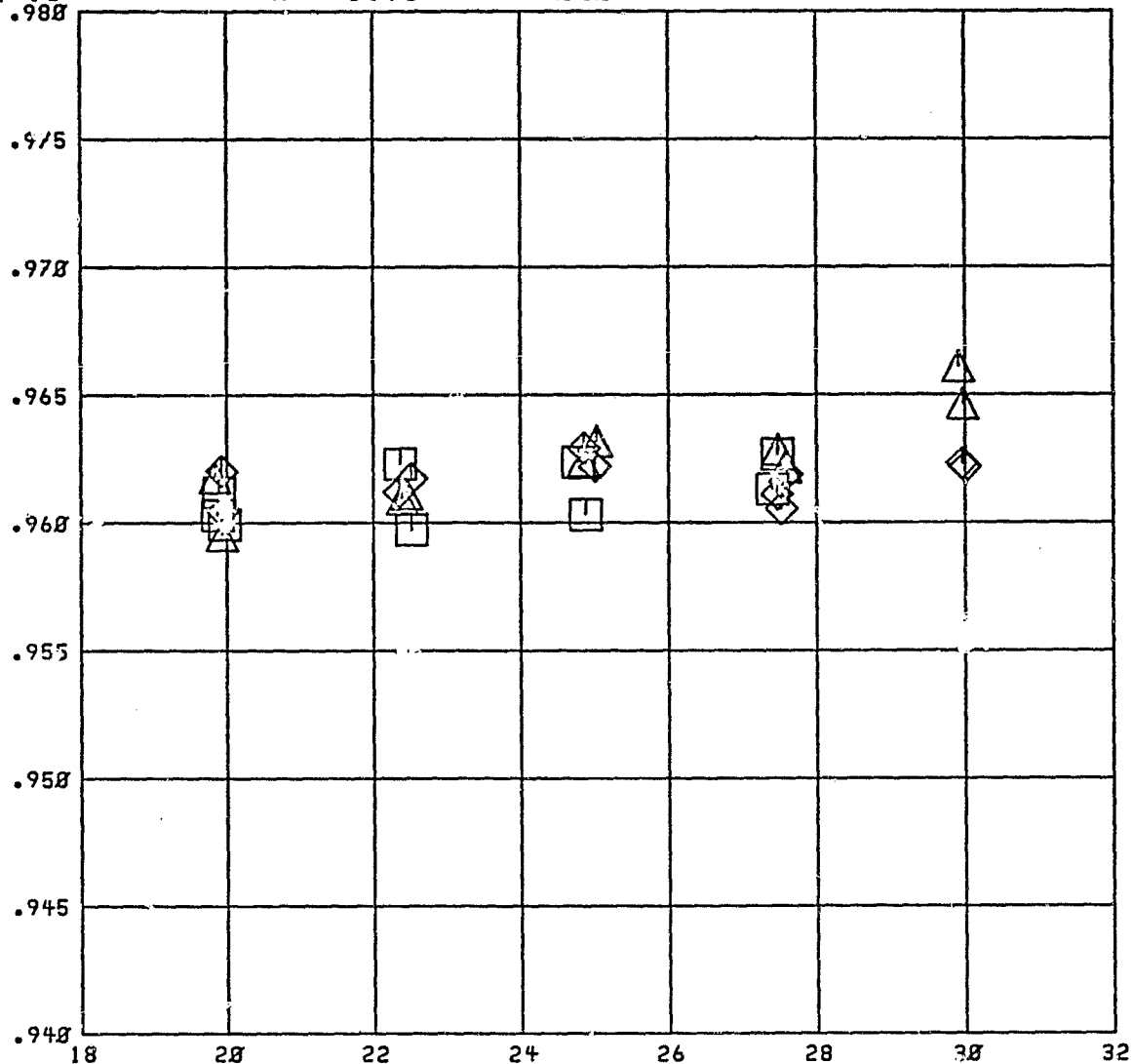
SUPERSONIC CRUISE

RUN 18  
.988

$M = 1.96$   $w = .000$

$P_{tr}/P_{tp} = \square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

FAN-NOZZLE FLOW COEFFICIENT, CDF



FAN NOZZLE PRESSURE RATIO, PTF/PO

RD'G. 1155-1184

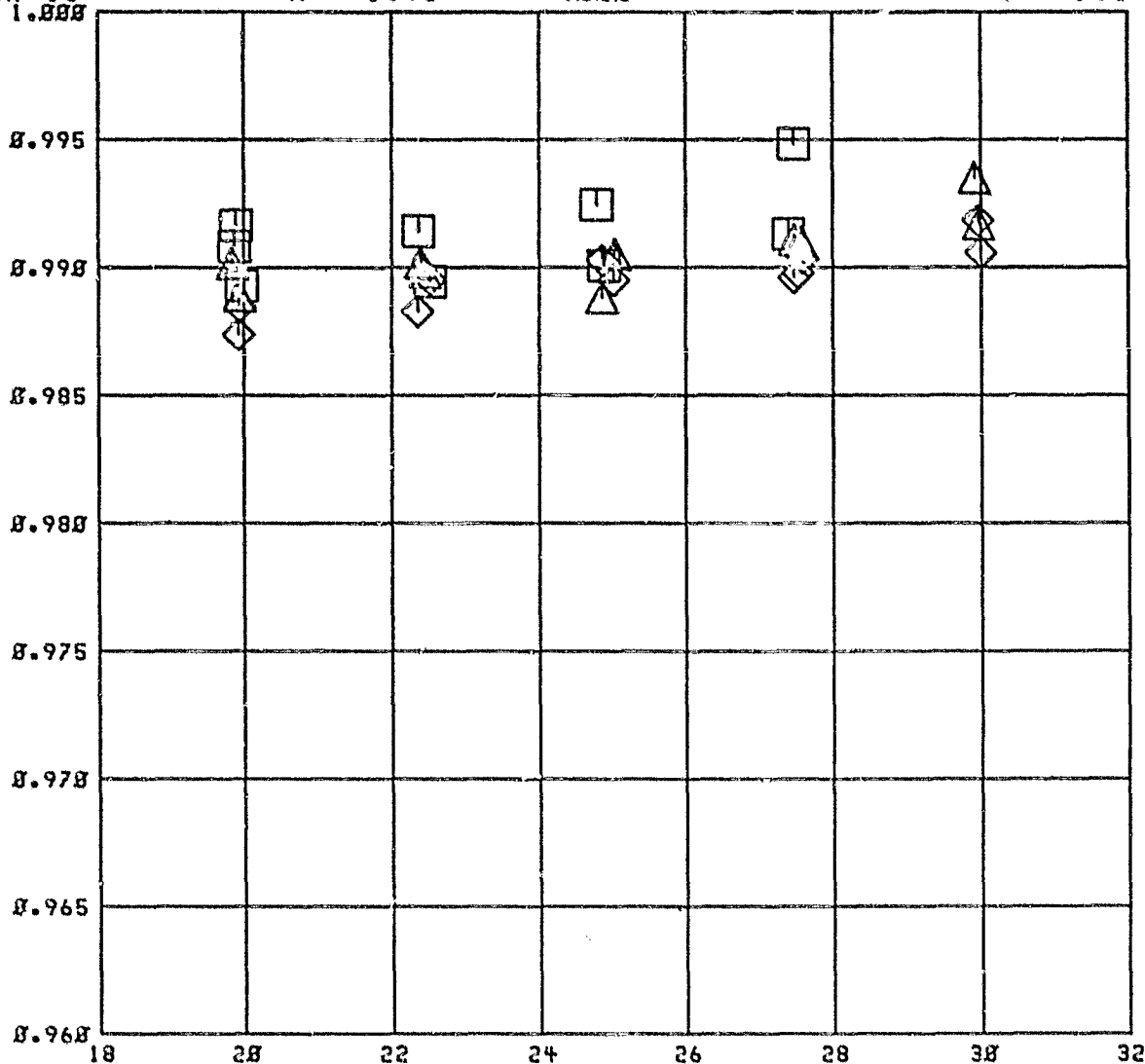
A1  
SUPERSONIC CRUISE

RUN 18  
1.888

$M_o = 1.96$   $\omega = .888$

$P_{tr}/P_{tr} =$   $\square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

PRIMARY-NOZZLE FLOW COEFFICIENT, CDP



FAN NOZZLE PRESSURE RATIO, PTF/PO



Rd'g. 1155-1184

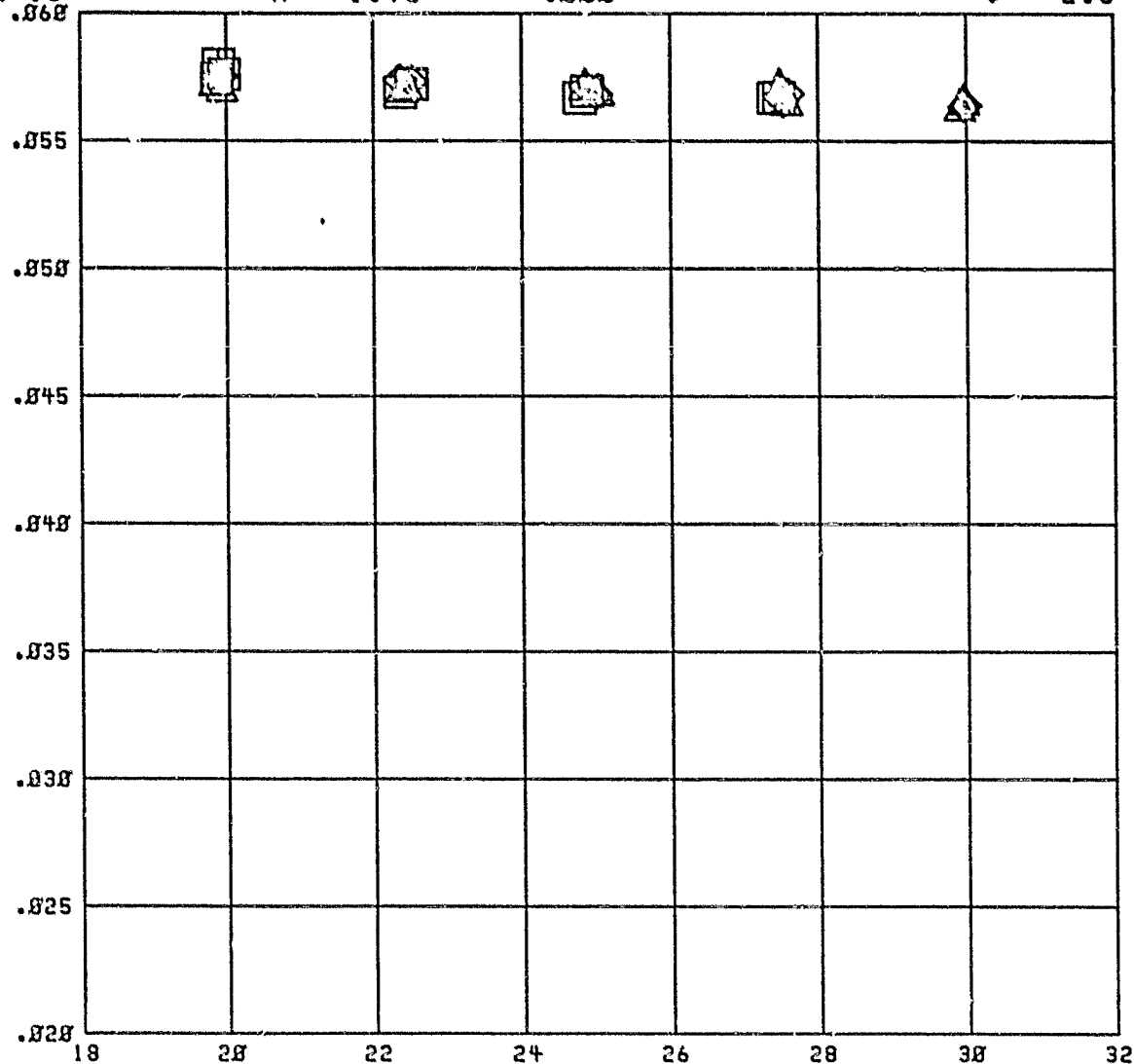
A1  
SUPERSONIC CRUISE

RUN 18  
.868

$M_o = 1.96$   $\omega = .888$

$P_{tr}/P_{trB}$   $\square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

SECONDARY TO FAN TOTAL-PRESSURE RATIO,  $P_{TS}/P_{TF}$



FAN NOZZLE PRESSURE RATIO,  $P_{TF}/P_O$

RUN 18

RDG=1156

A1

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

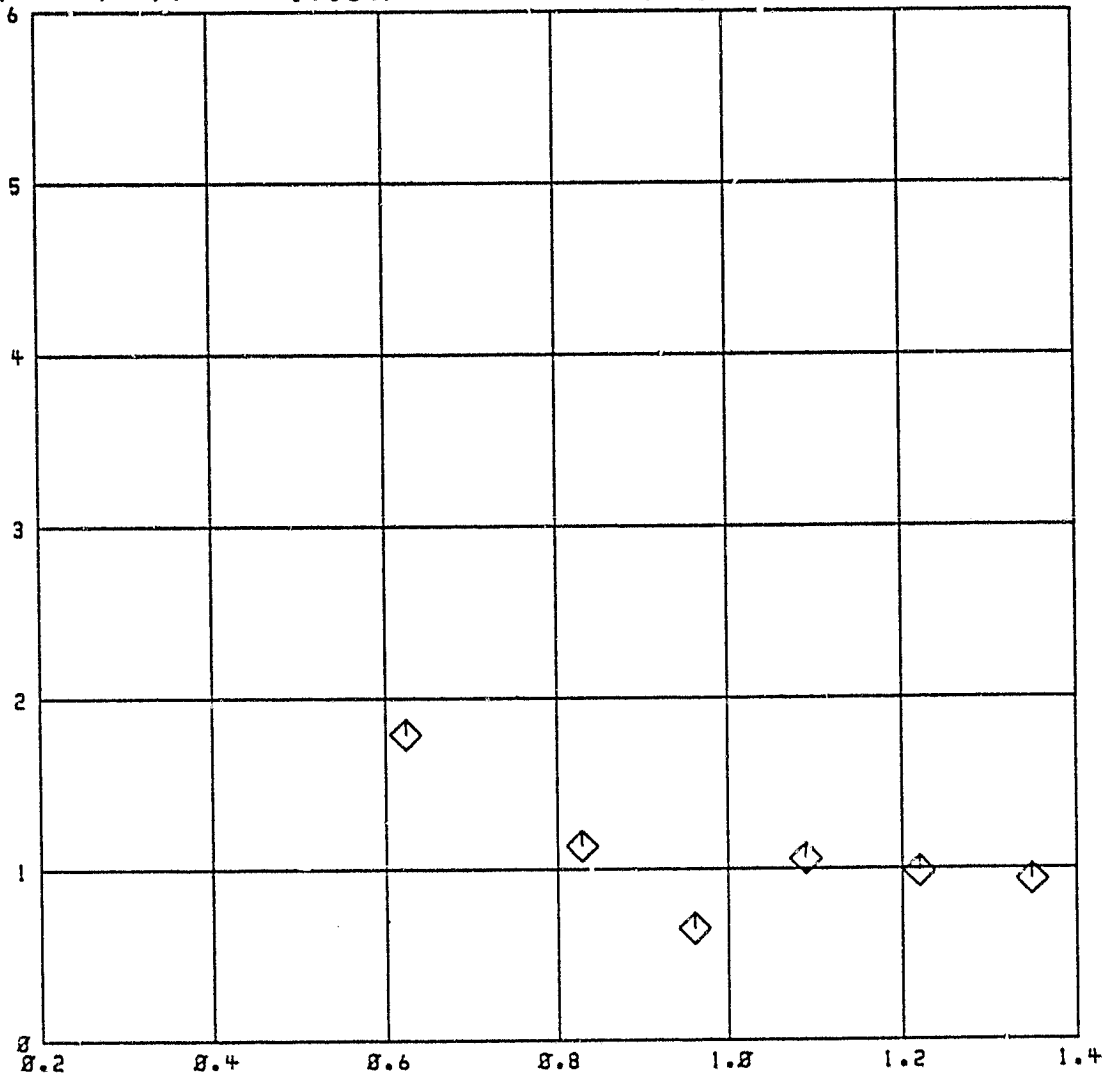
$M_o = 1.97$

$P_{tr}/P_o = 19.847$

$P_{tr}/P_{tp} = 2.31$

$\omega = .888$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_t/P_o$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 18

RDG=1159

A1

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

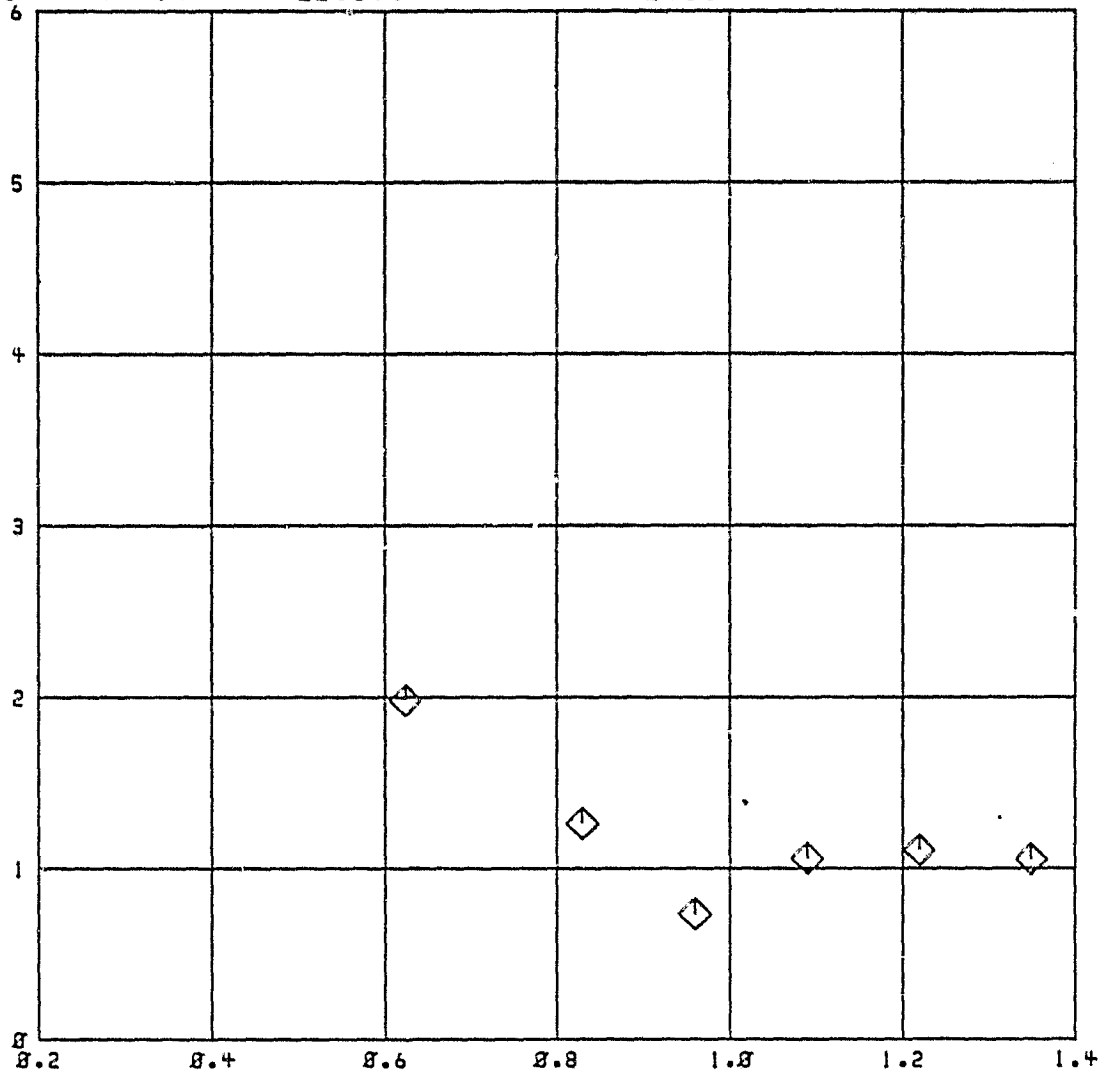
$M_0 = 1.96$

$P_{t0}/P_0 = 22.393$

$P_{t0}/P_{tP} = 2.31$

$w = .888$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_t/P_0$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 18

A1

RDG=1162

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

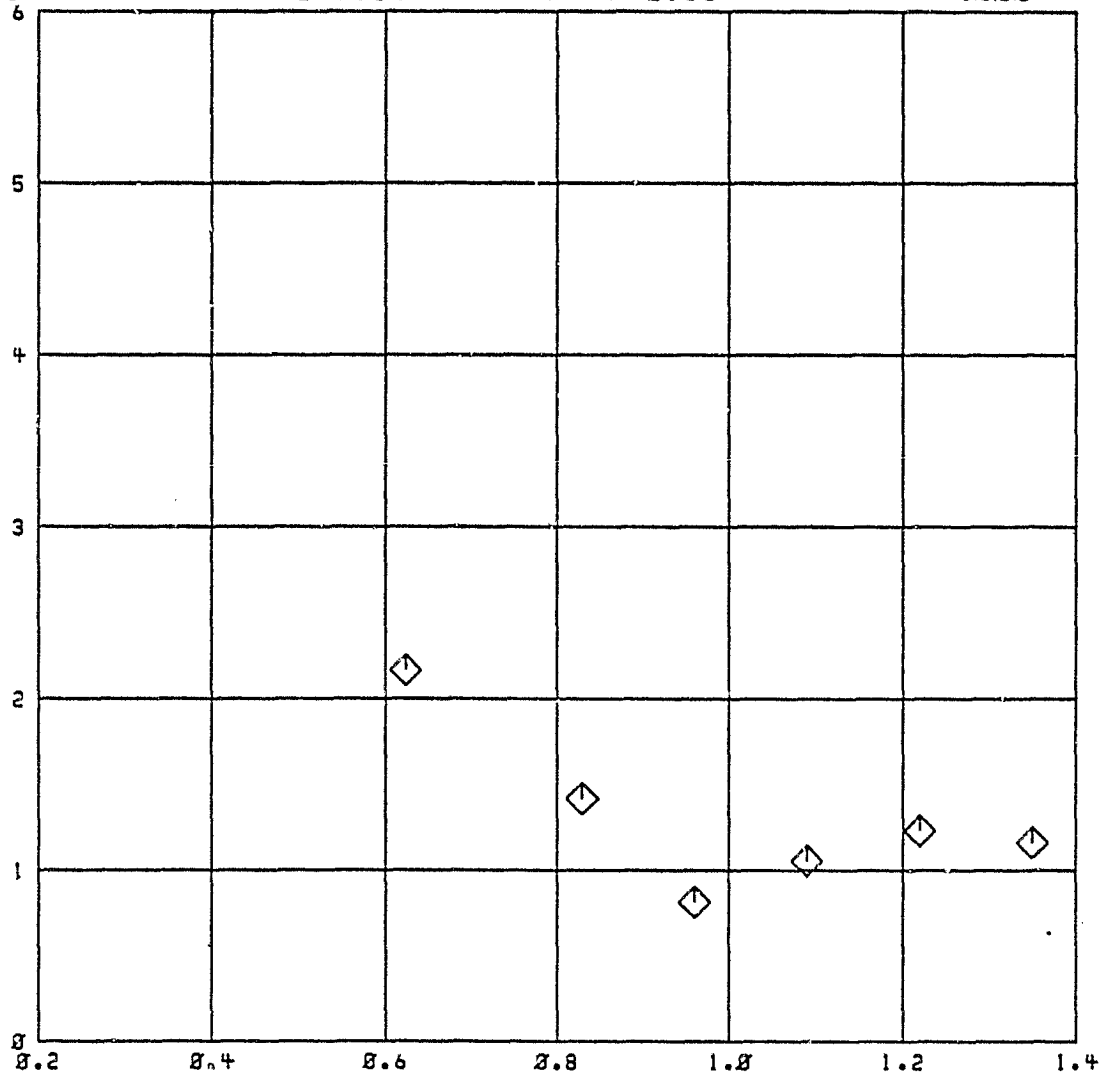
$M_\infty = 1.96$

$P_{tr}/P_\infty = 24.856$

$P_{tr}/P_{tp} = 2.33$

$\omega = .000$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_t/P_\infty$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

Run 18

RDG=1165

A1

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

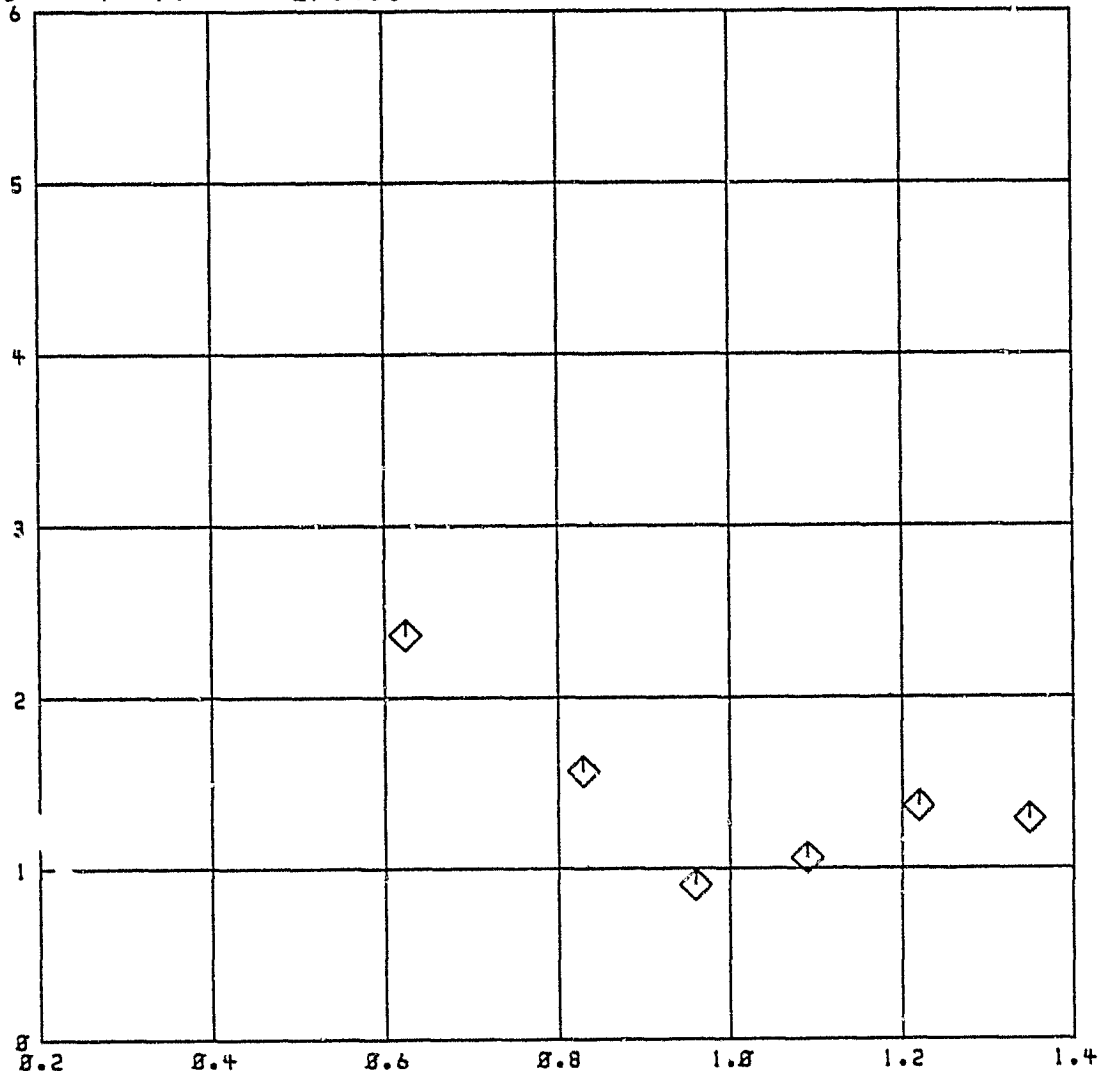
$M_o = 1.96$

$P_{tr}/P_o = 27.481$

$P_{tr}/P_{tp} = 2.33$

$\omega = .000$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_o$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 18

A1

RDG=1167

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

$M_0 = 1.96$

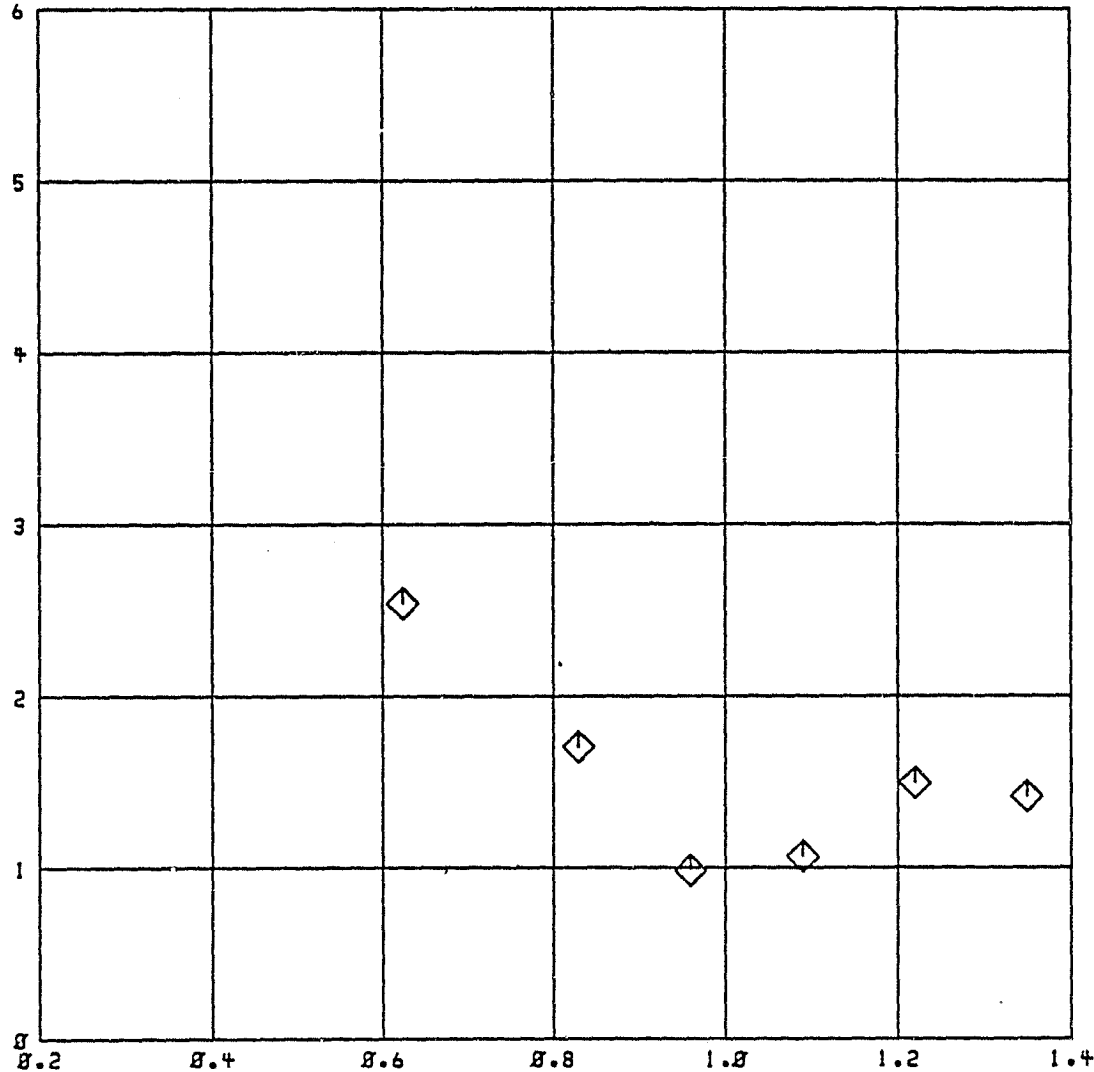
$P_{tr}/P_0 =$

29.915

$P_{tr}/P_{tp} = 2.31$

$\omega = .000$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_0$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RD'G 1205-1235

A1

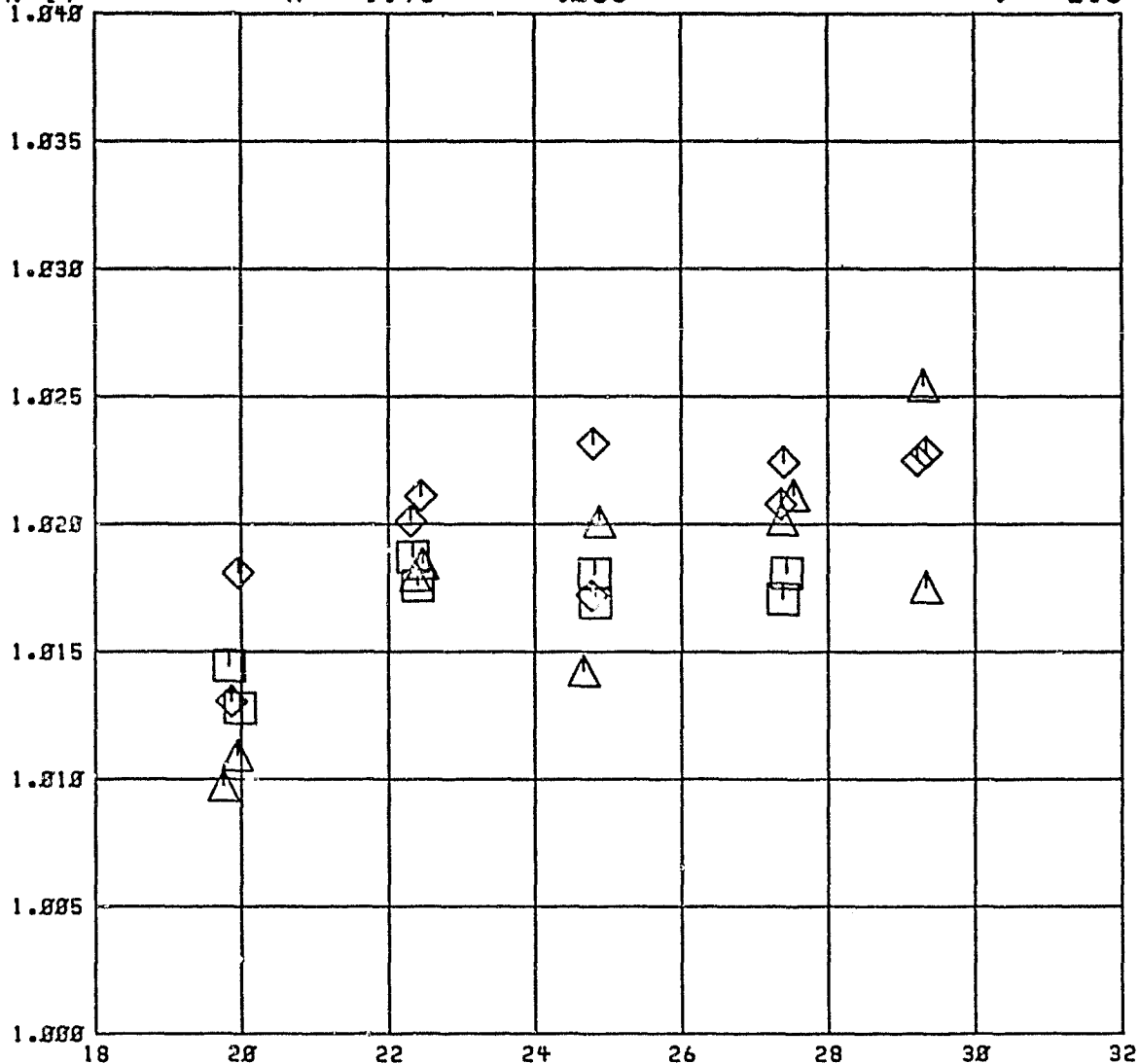
SUPERSONIC CRUISE

RUN 19  
1.848

$M_o = 1.96$   $w = .038$

$P_{tr}/P_{tp} = \square = 2.0$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

NOZZLE GROSS THRUST COEFFICIENT,  $CFP_1$



FAN NOZZLE PRESSURE RATIO,  $PTF/PO$

R06.1204-1235

A1

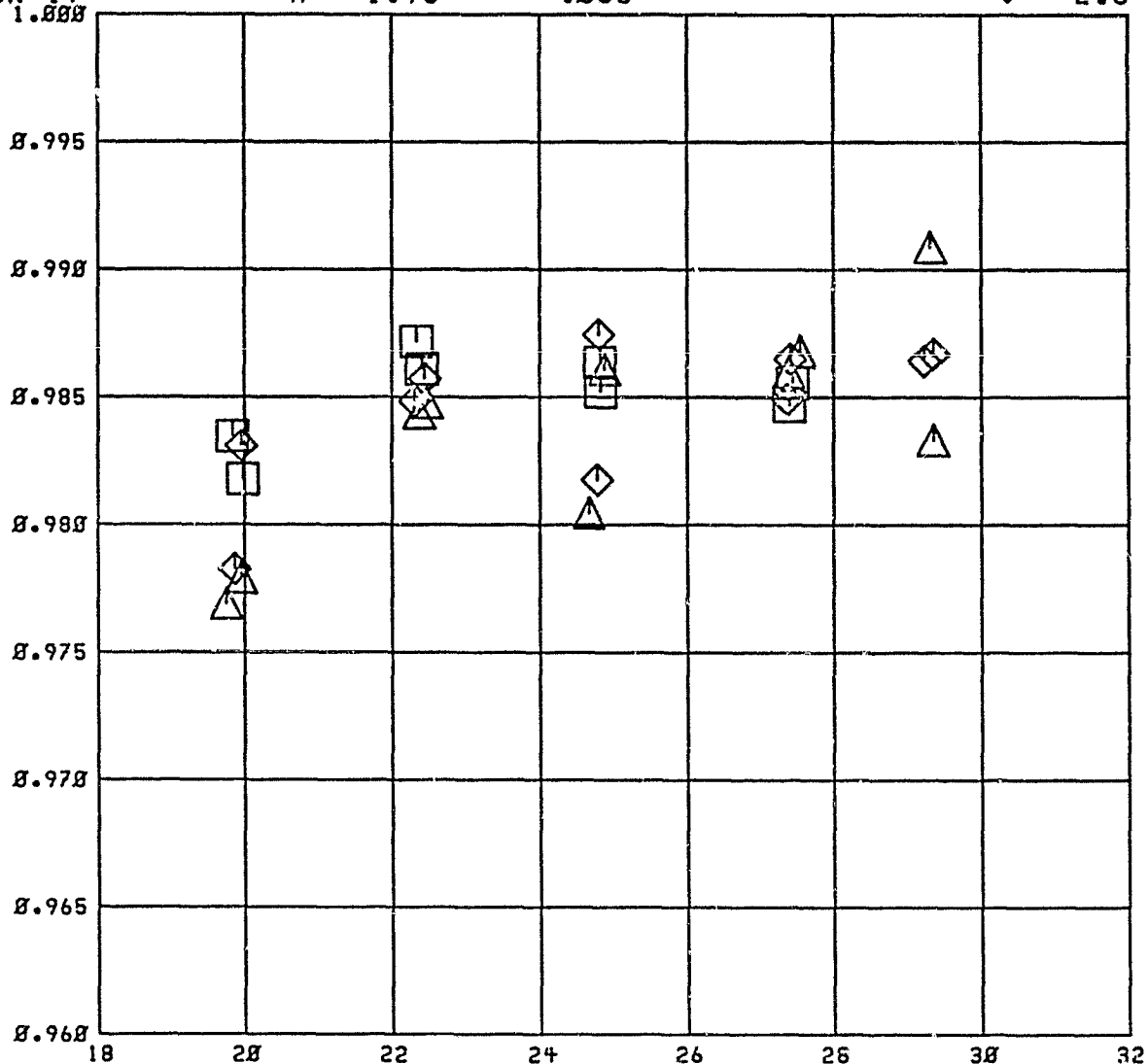
SUPERSONIC CRUISE

RUN 19  
1.000

$M_0 = 1.96$   $\omega = .038$

$P_{tC}/P_{tP} = \square = 2.0$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

NOZZLE EFFICIENCY,  $\eta_{1 \text{ INT}}$



FAN NOZZLE PRESSURE RATIO,  $P_{tC}/P_0$



RDG. 1205-1235

A1

SUPERSONIC CRUISE

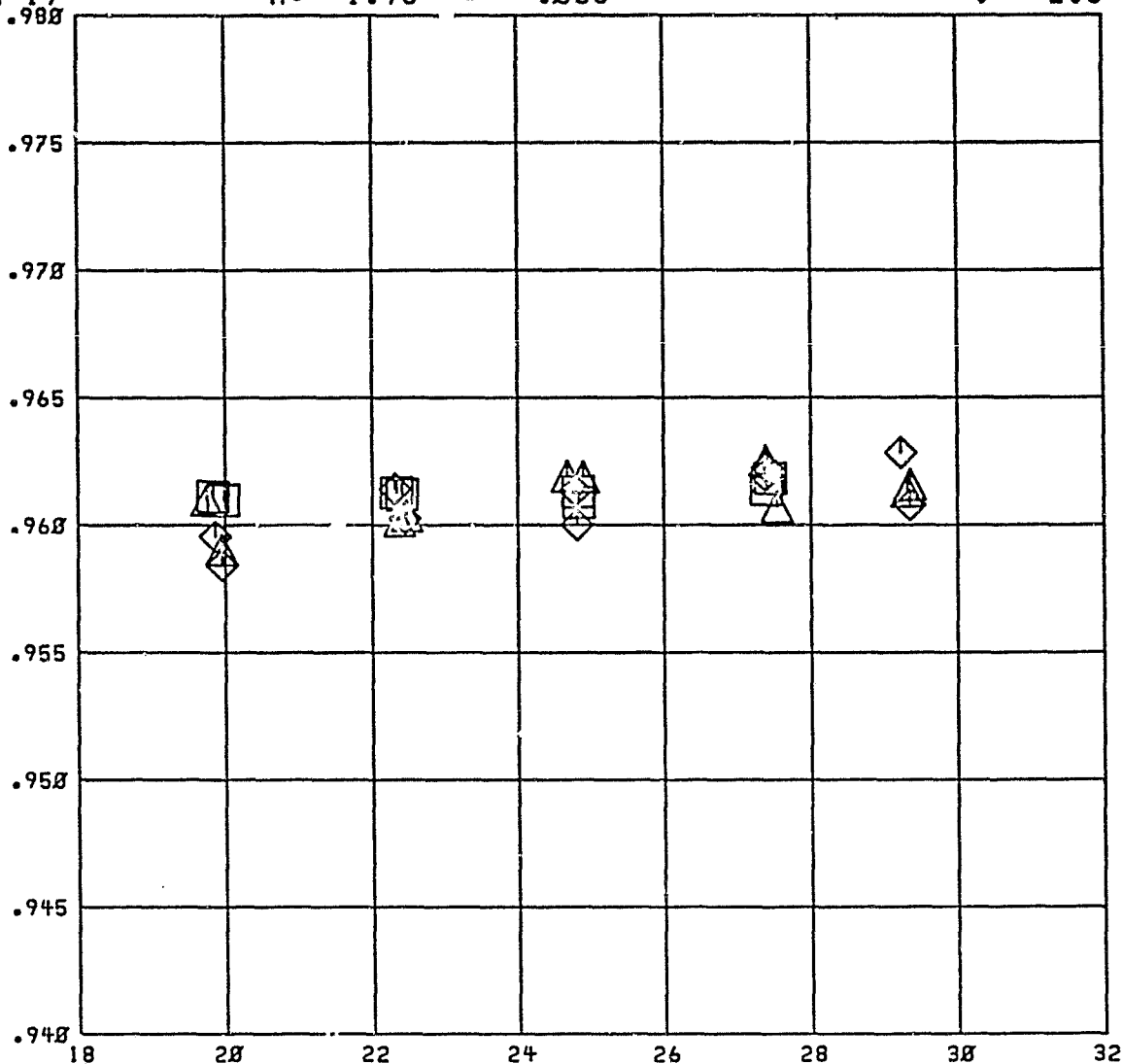
RUN 19

$M_0 = 1.96$

$\omega = .038$

$P_{tr}/P_{tp} = \square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

FAN-NOZZLE FLOW COEFFICIENT, CDF



FAN NOZZLE PRESSURE RATIO, PTF/PO

RDG. 1205-1235

A1

SUPERSONIC CRUISE

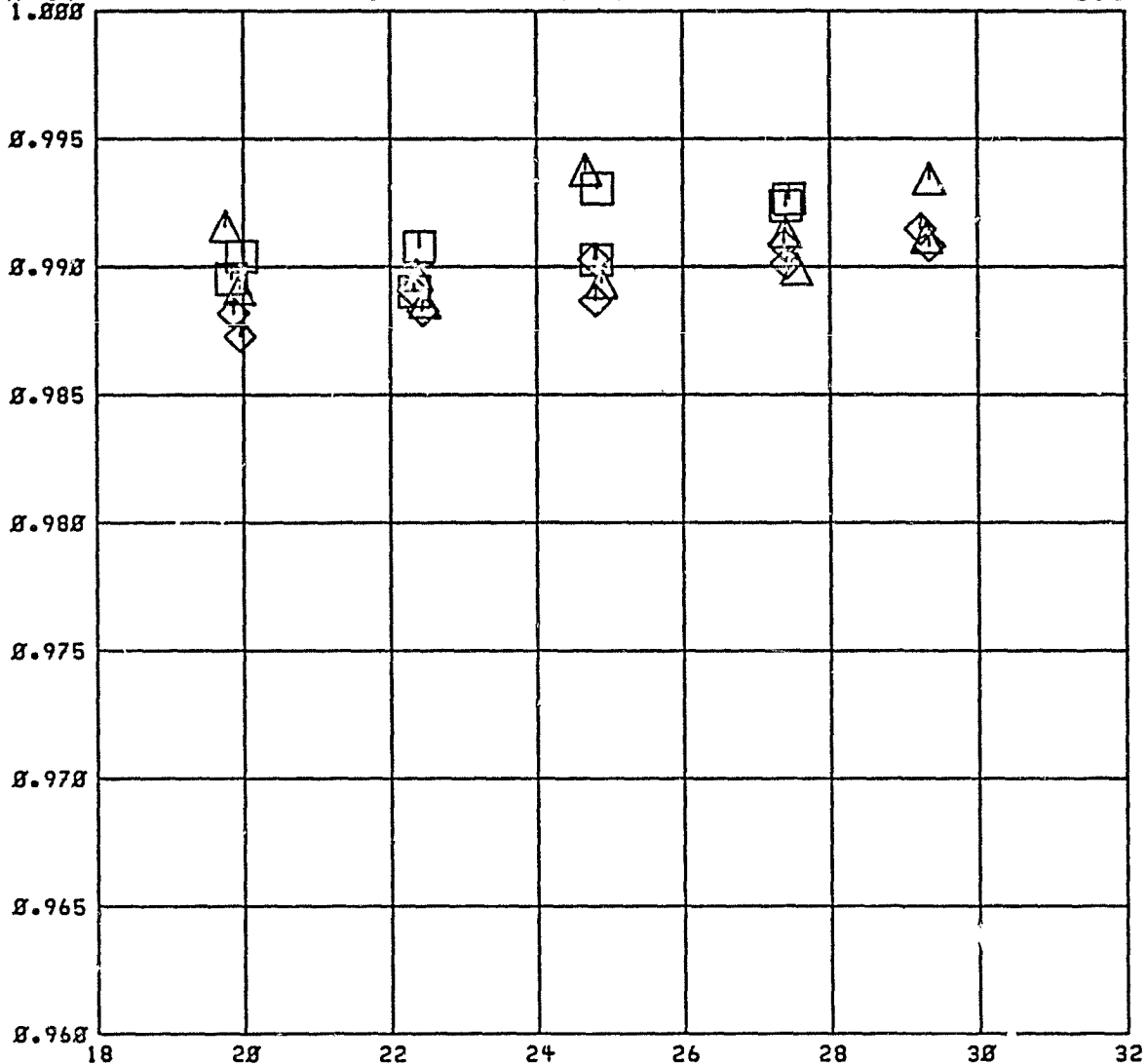
RUN 19

1.888

$M_0 = 1.96$   $\omega = .838$

$P_{tr}/P_{tp} =$   $\square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

PRIMARY-NOZZLE FLOW COEFFICIENT, CDP



FAN NOZZLE PRESSURE RATIO, PTF/PO

RDG 1205-1235

A1

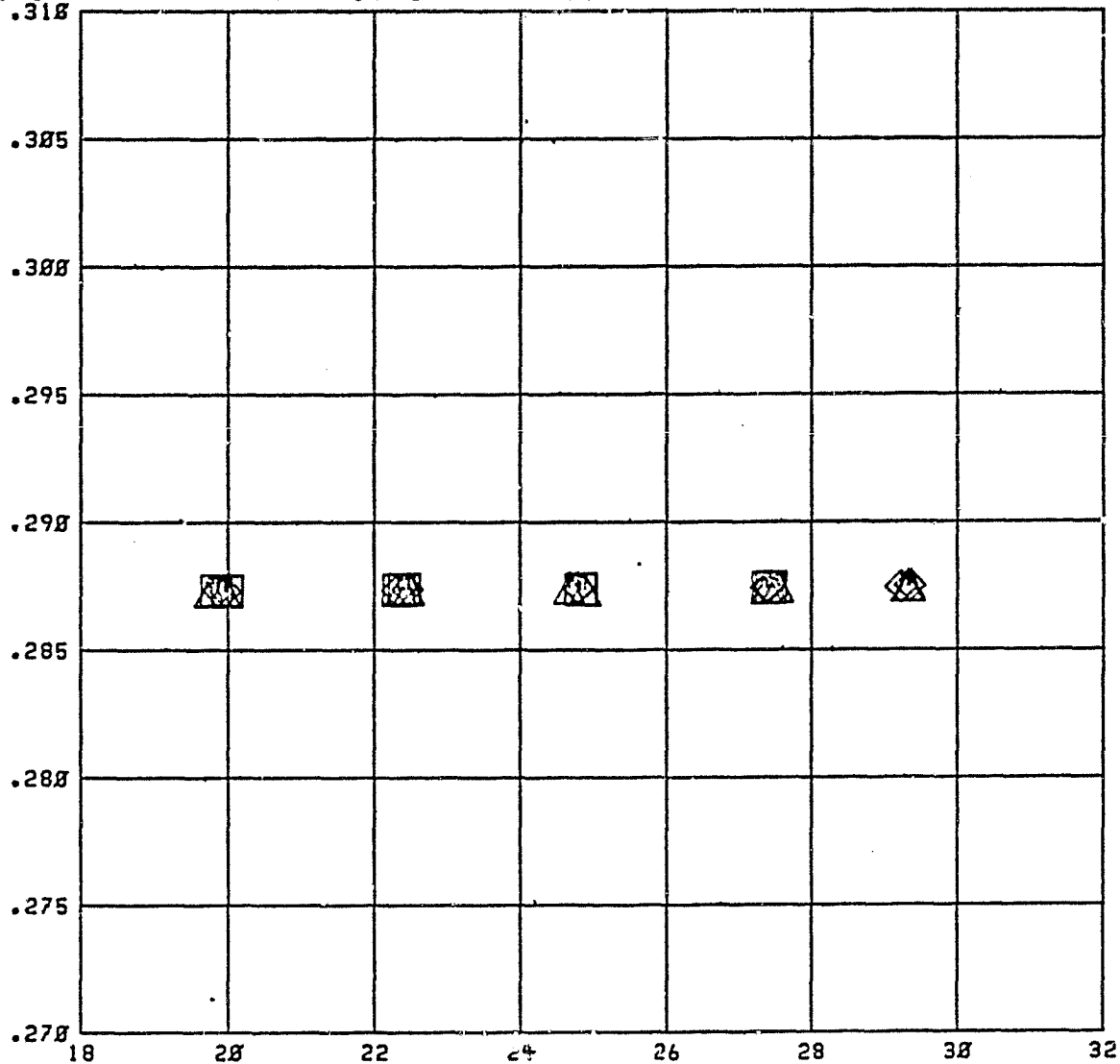
SUPERSONIC CRUISE

RUN 19  
.318

$M_0 = 1.96$   $\omega = .038$

$P_{tC}/P_{tP} = \square = 2.0$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

SECONDARY TO FAN TOTAL-PRESSURE RATIO,  $P_{TS}/P_{TF}$



FAN NOZZLE PRESSURE RATIO,  $P_{TF}/P_0$

Run 19

A1

RDG=1224

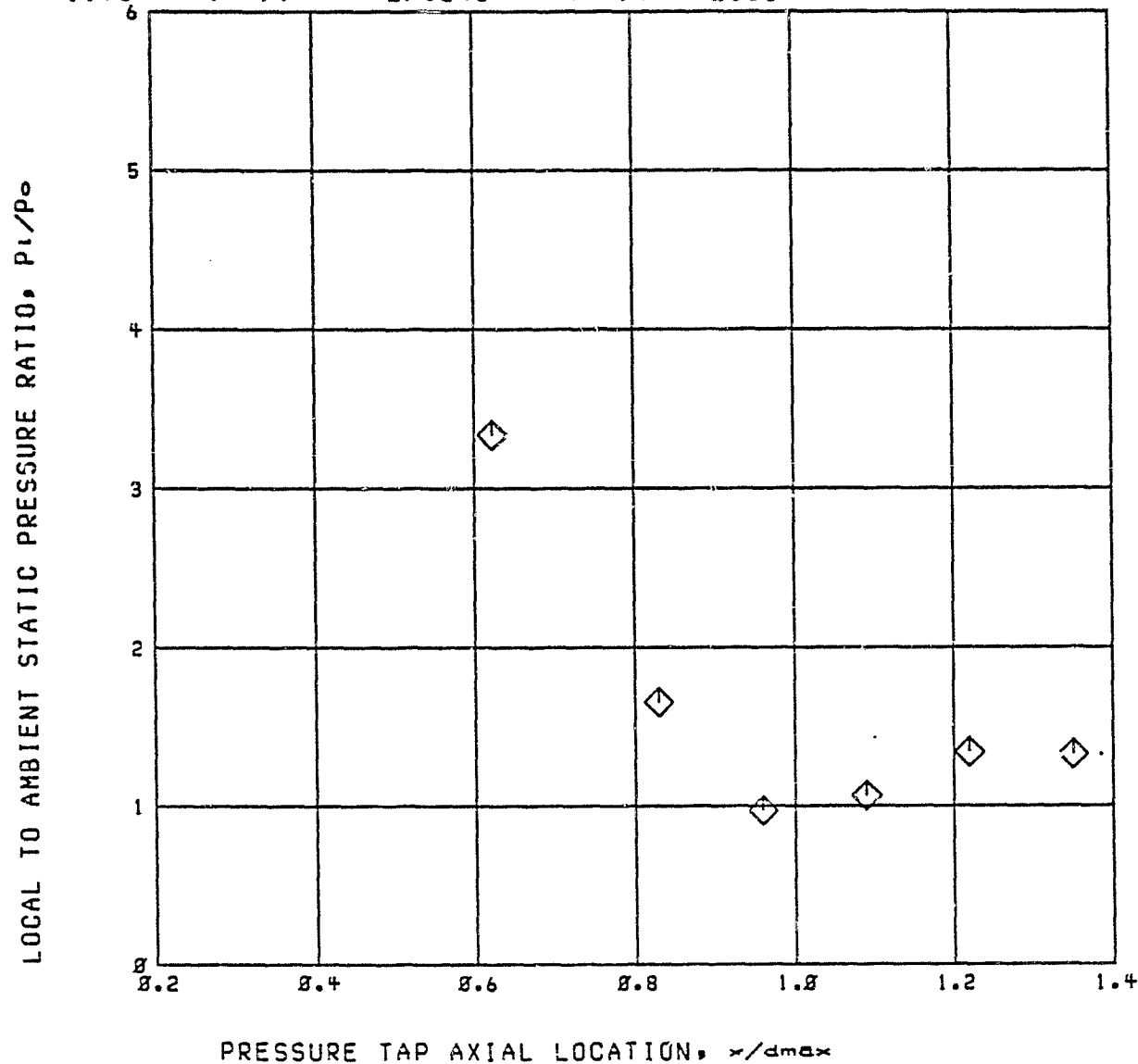
EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

$M_e = 1.96$

$P_{tr}/P_o = 27.543$

$P_{tr}/P_{tp} = 2.33$

$\omega = .039$



Run 19

A1

RDG=1227

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

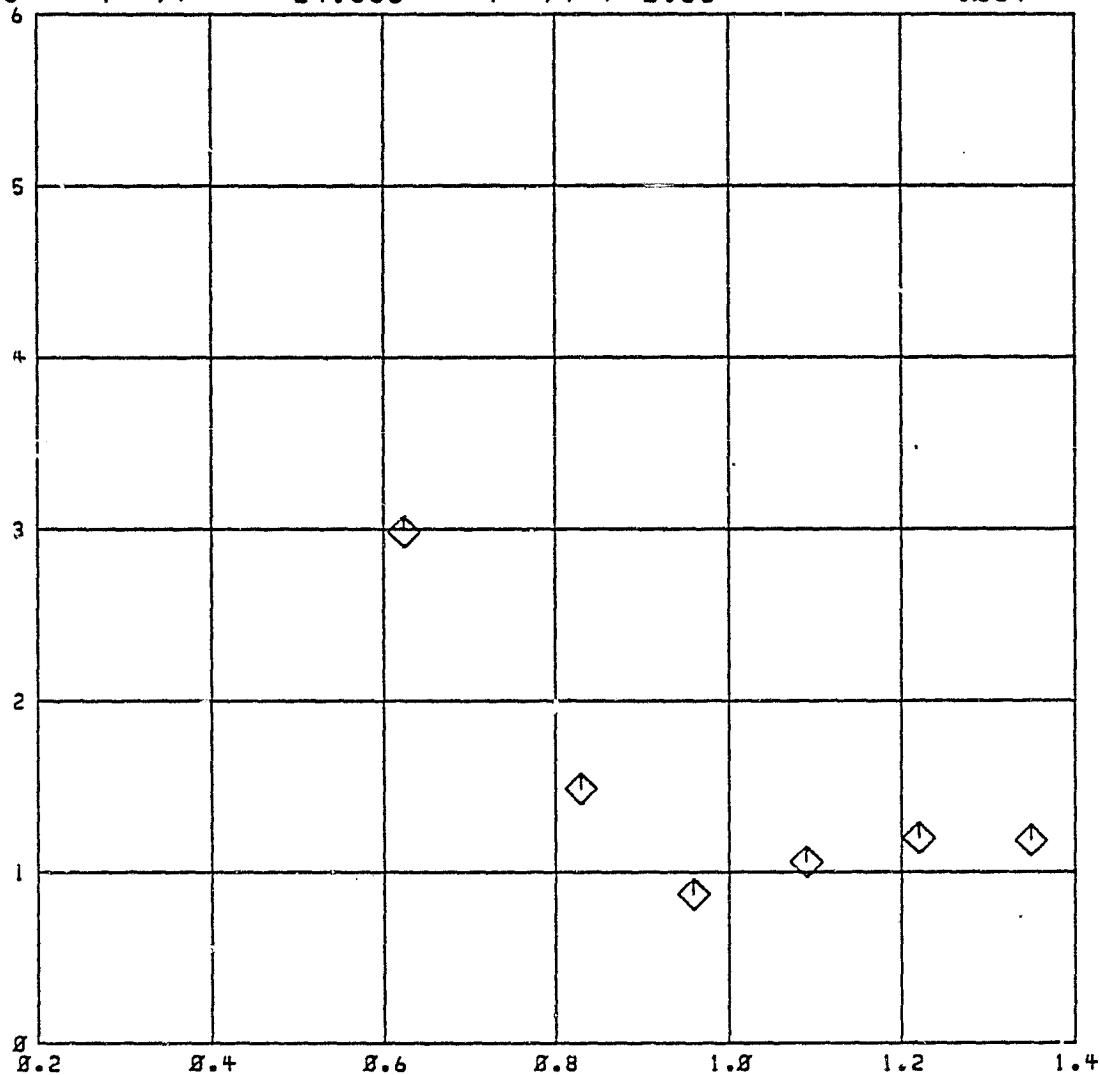
$M_o = 1.96$

$P_{tr}/P_o = 24.683$

$P_{tr}/P_{tp} = 2.33$

$\omega = .039$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_t/P_o$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 19

RDG=1238

A1

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

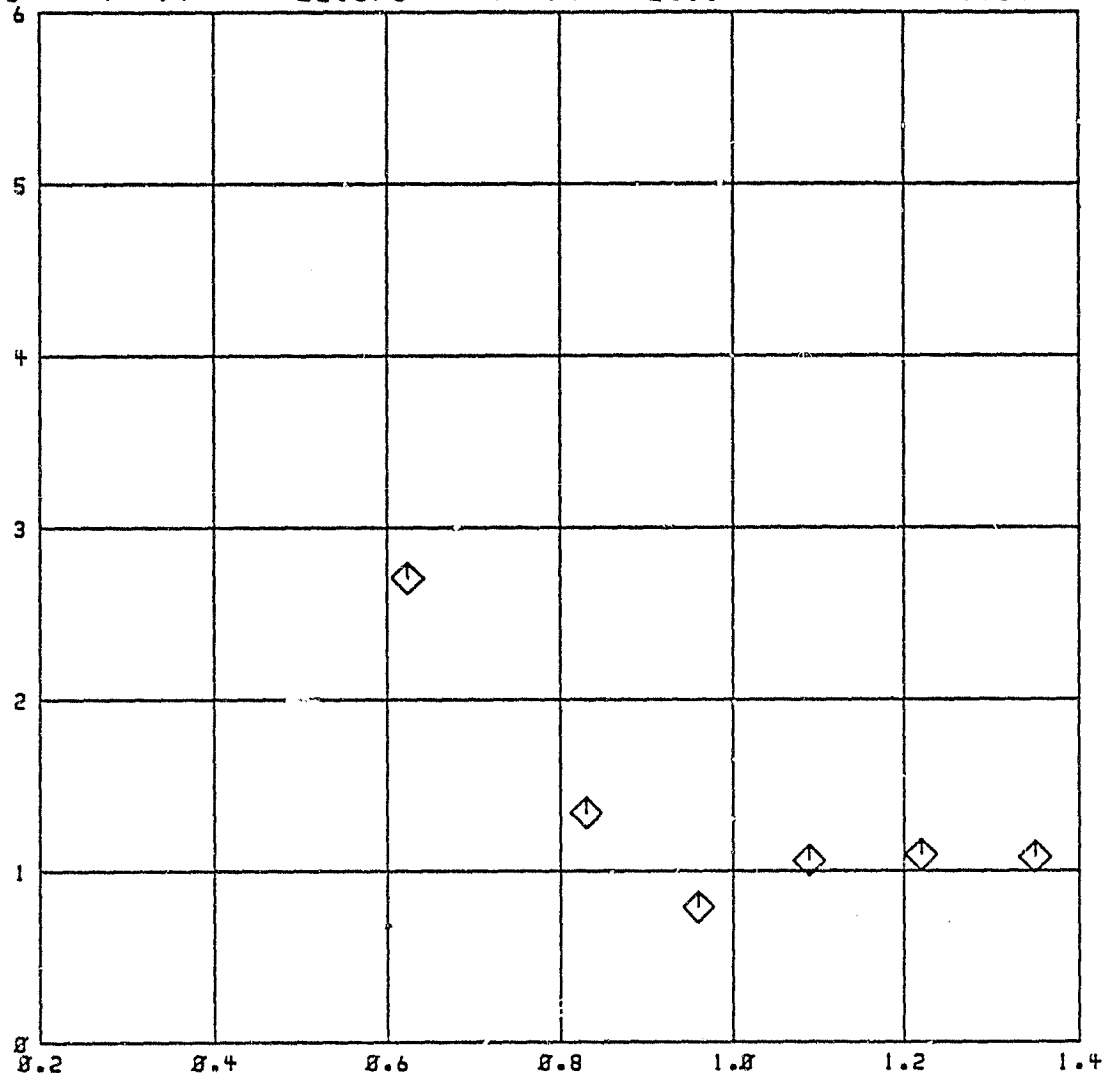
$M_0 = 1.96$

$P_{tr}/P_0 = 22.376$

$P_{tr}/P_{tp} = 2.31$

$w = .839$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_0$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 19

A1

RDG=1233

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

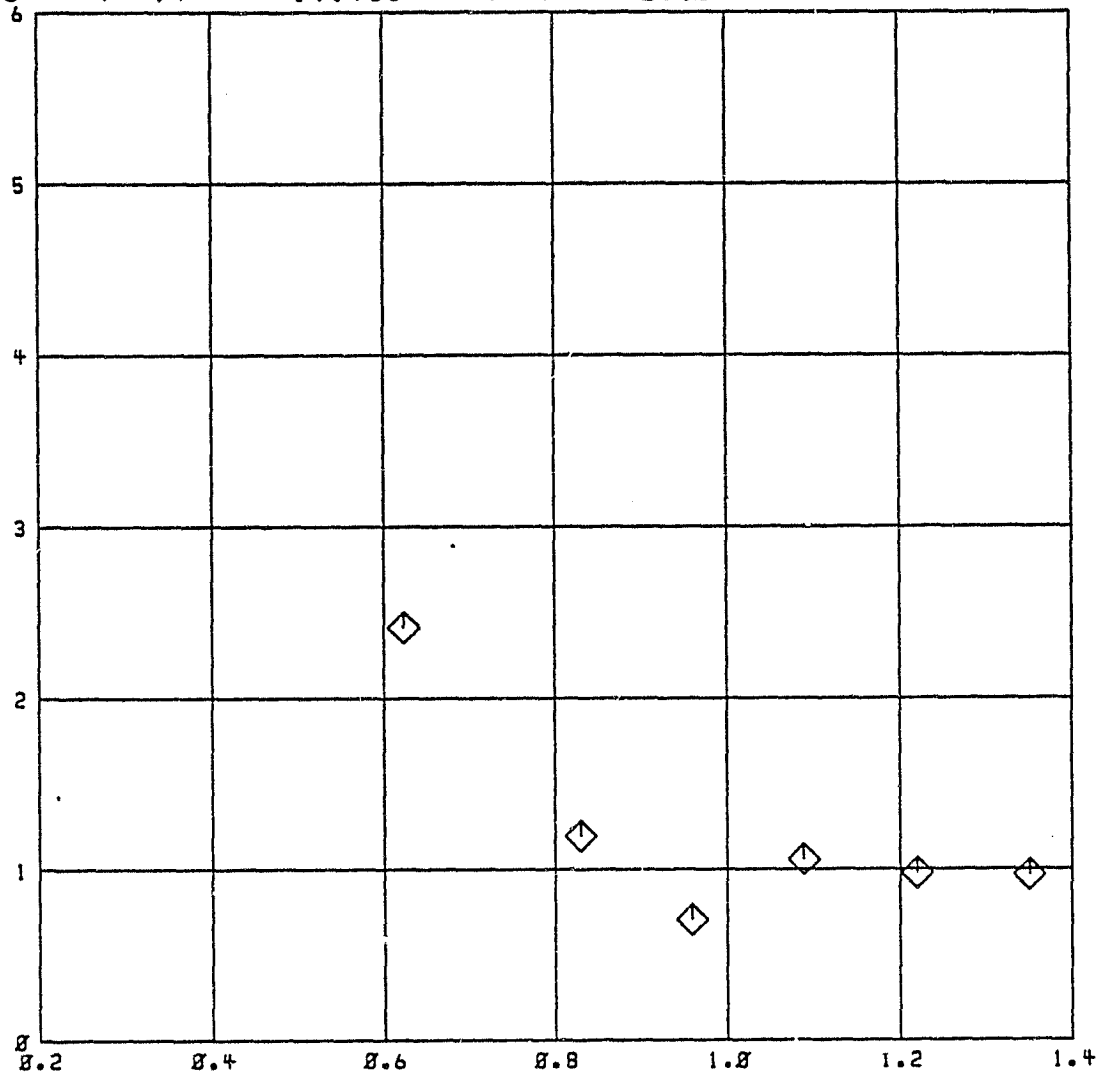
$M_o = 1.96$

$P_{tr}/P_o = 19.958$

$P_{tr}/P_{tp} = 2.38$

$w = .839$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_t/P_o$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RD'g. 1248-1277

A1

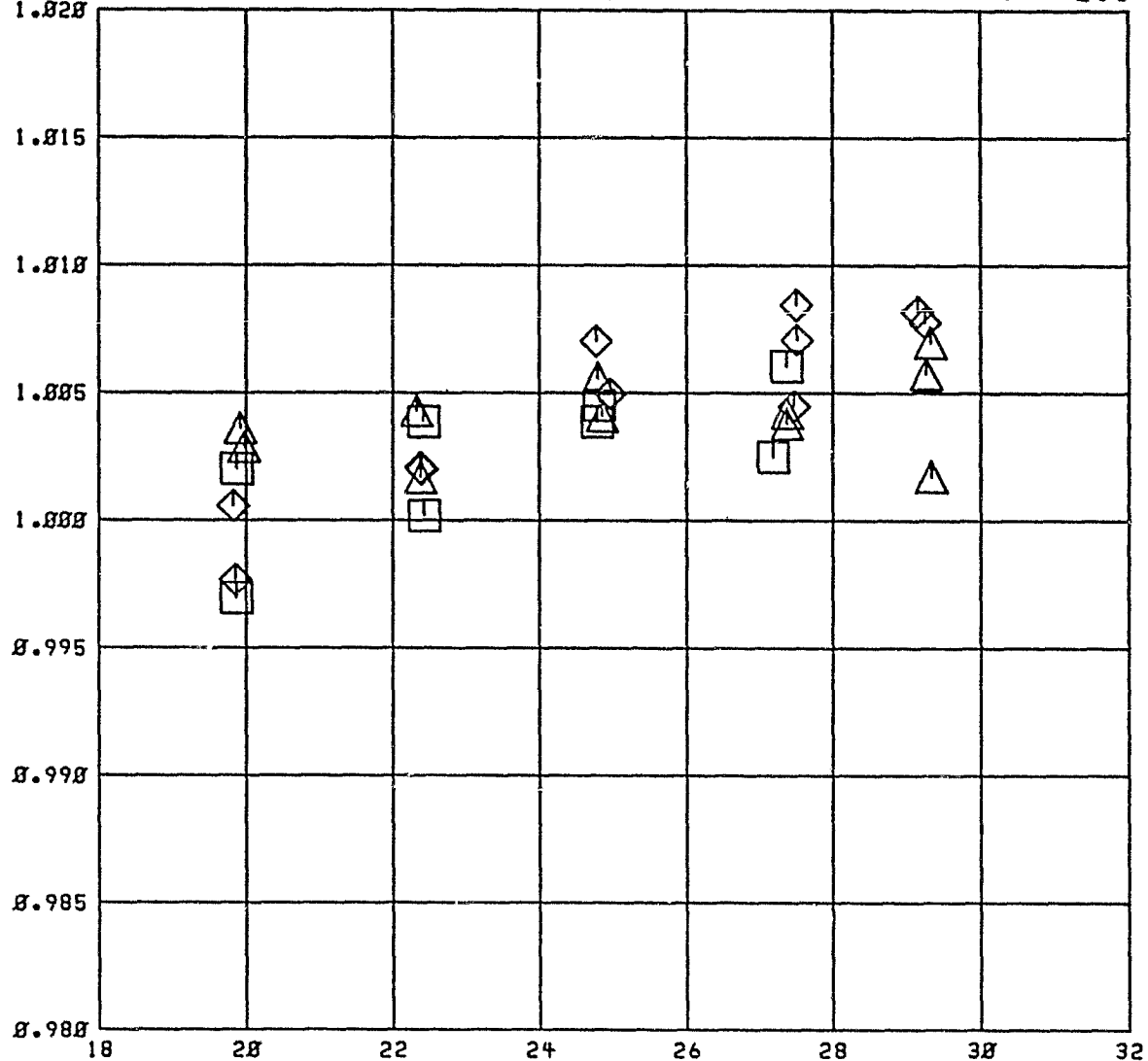
SUPERSONIC CRUISE

RUN 28  
1.828

$M = 1.95$   $\omega = .828$

$P_{tr}/P_{tp} = \square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

NOZZLE GROSS THRUST COEFFICIENT,  $CFP_1$



FAN NOZZLE PRESSURE RATIO,  $PTF/P_0$



RDG 1248-1277

A1

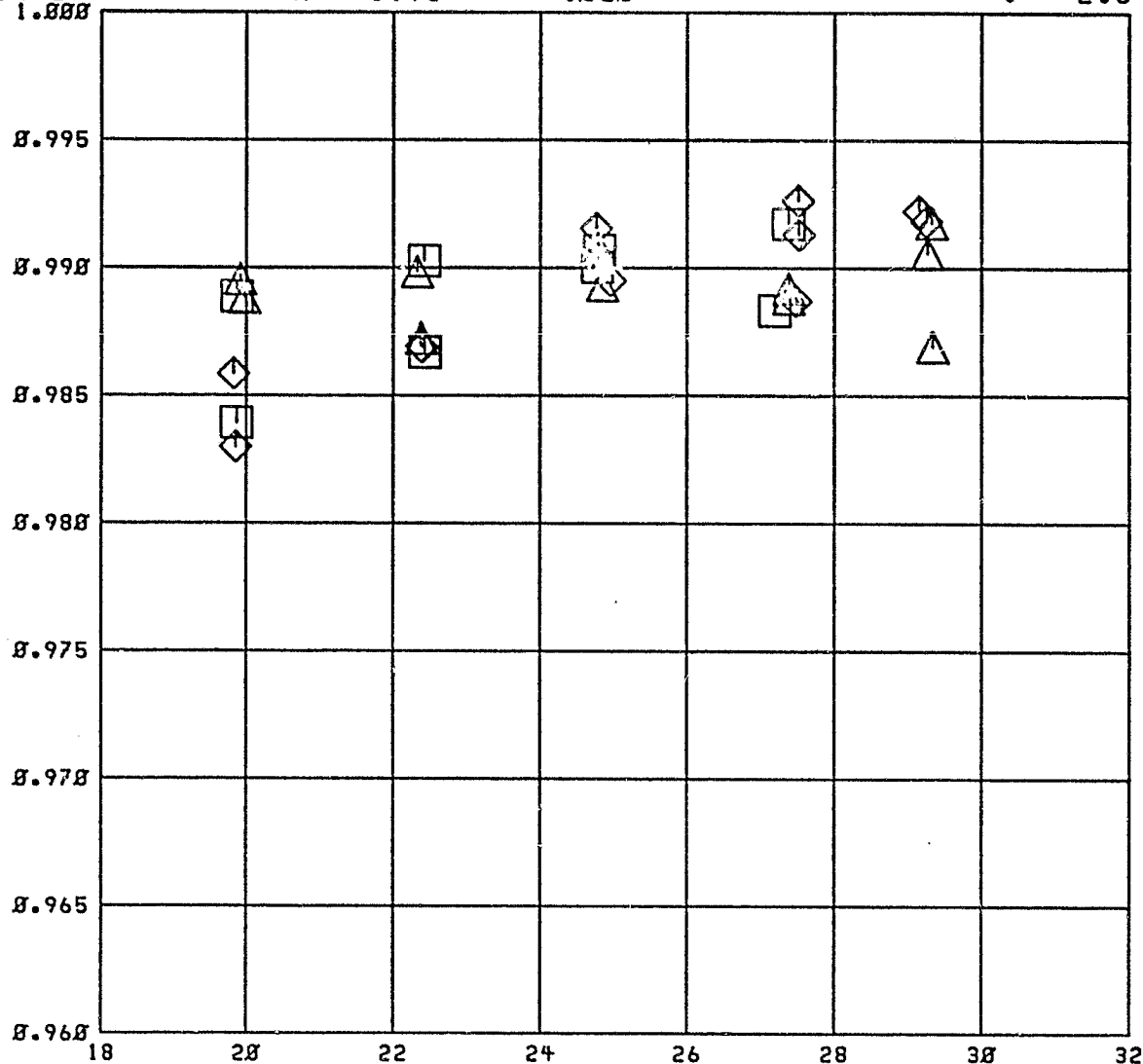
SUPERSONIC CRUISE

RUN 20  
1.888

$M_o = 1.95$   $\omega = .828$

$P_{tr}/P_{tp} = \square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

NOZZLE EFFICIENCY,  $\eta_{A1}$  INT



FAN NOZZLE PRESSURE RATIO, PTF/P0

RDG 1248-1277

A1

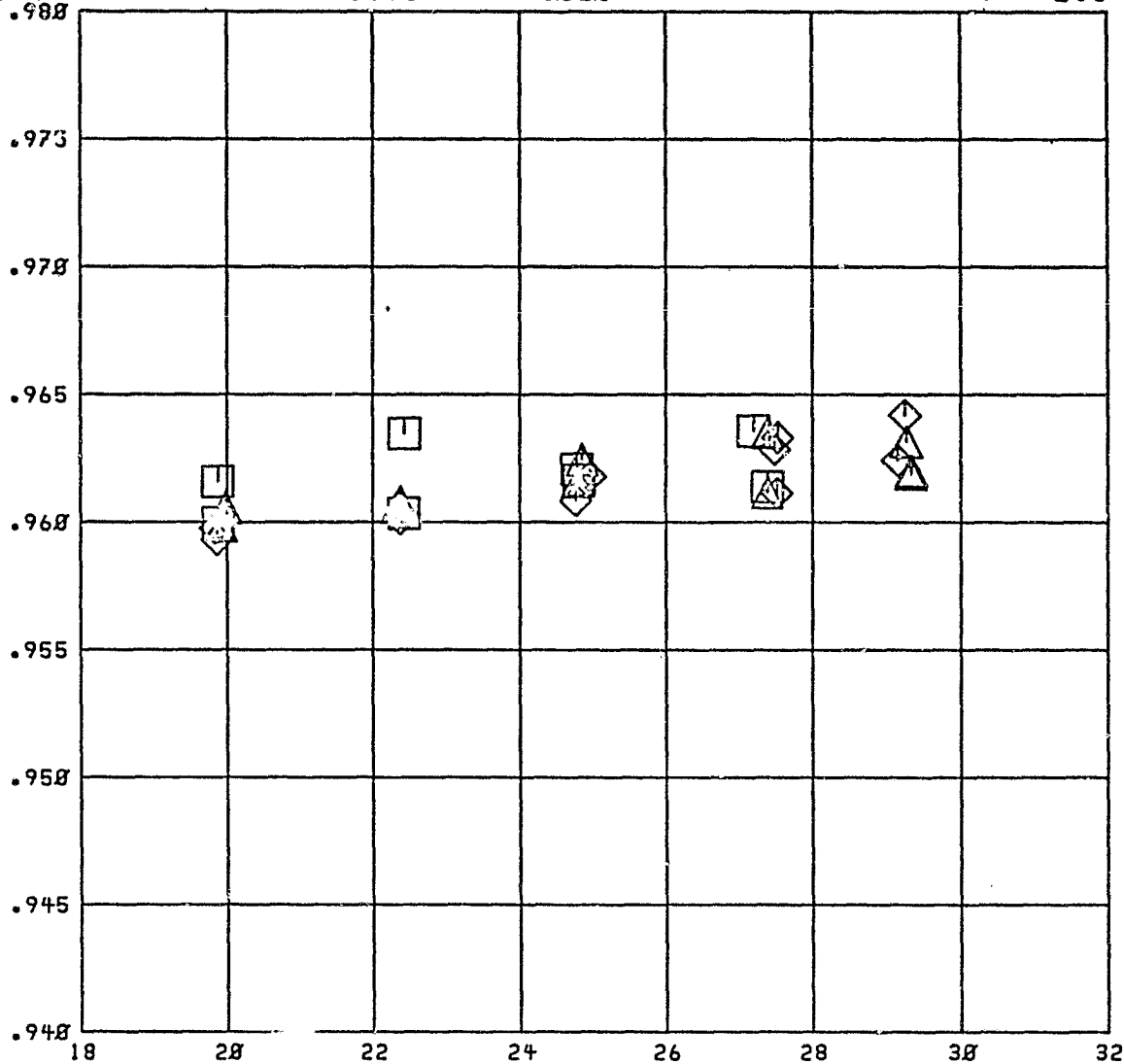
SUPERSONIC CRUISE

RUN 20  
.988

$M_0 = 1.95$   $w = .828$

$P_{tr}/P_{tp} =$   $\square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

FAN-NOZZLE FLOW COEFFICIENT, CDF



FAN NOZZLE PRESSURE RATIO, PTF/PO

RDG. 1248-1277

A1

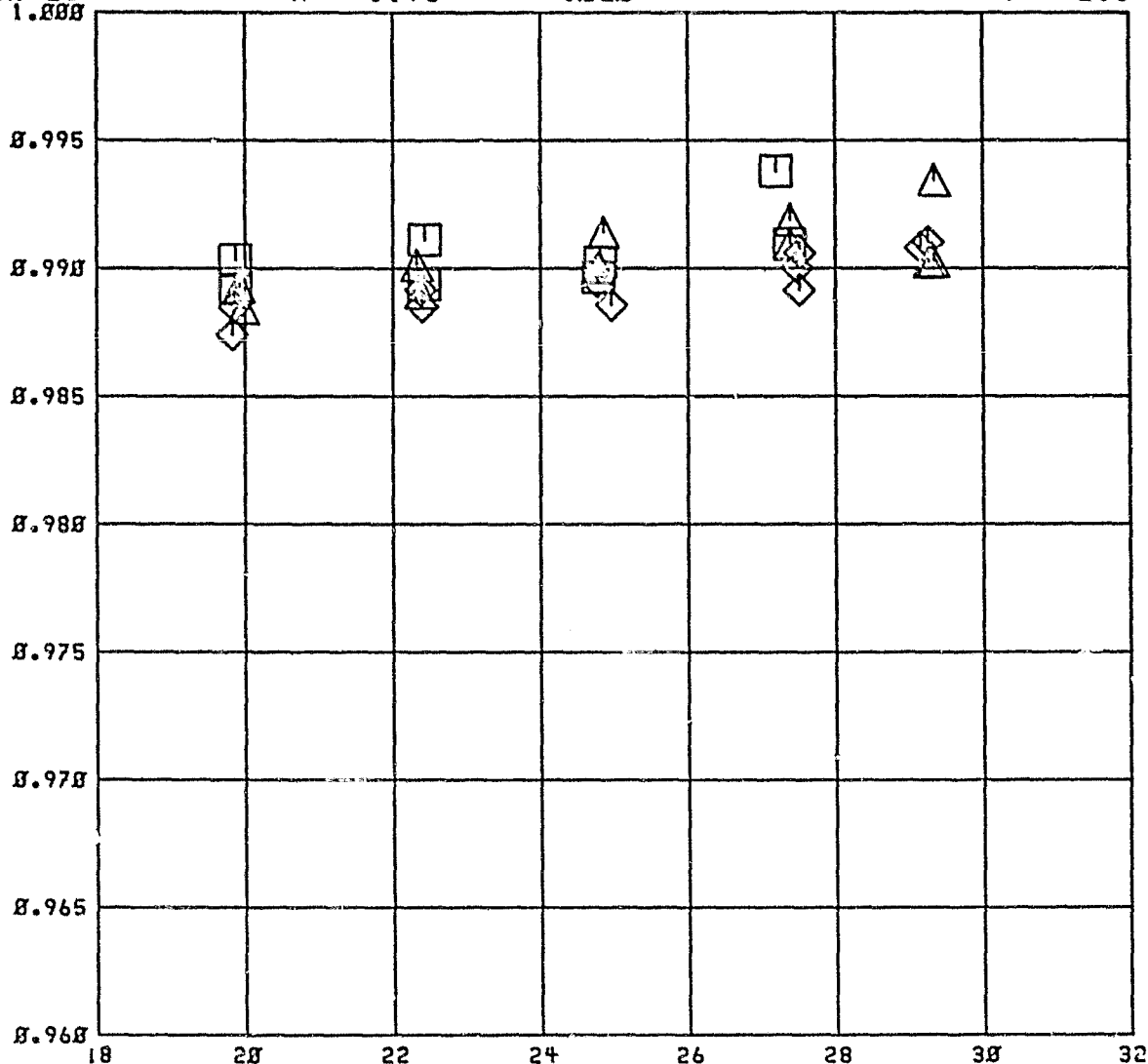
SUPERSONIC CRUISE

RUN 28  
1.800

$M_0 = 1.95$   $\omega = .828$

$P_{tr}/P_{tp} = \square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

PRIMARY-NOZZLE FLOW COEFFICIENT, CDP



FAN NOZZLE PRESSURE RATIO, PTF/PO

ROG 1248-1277

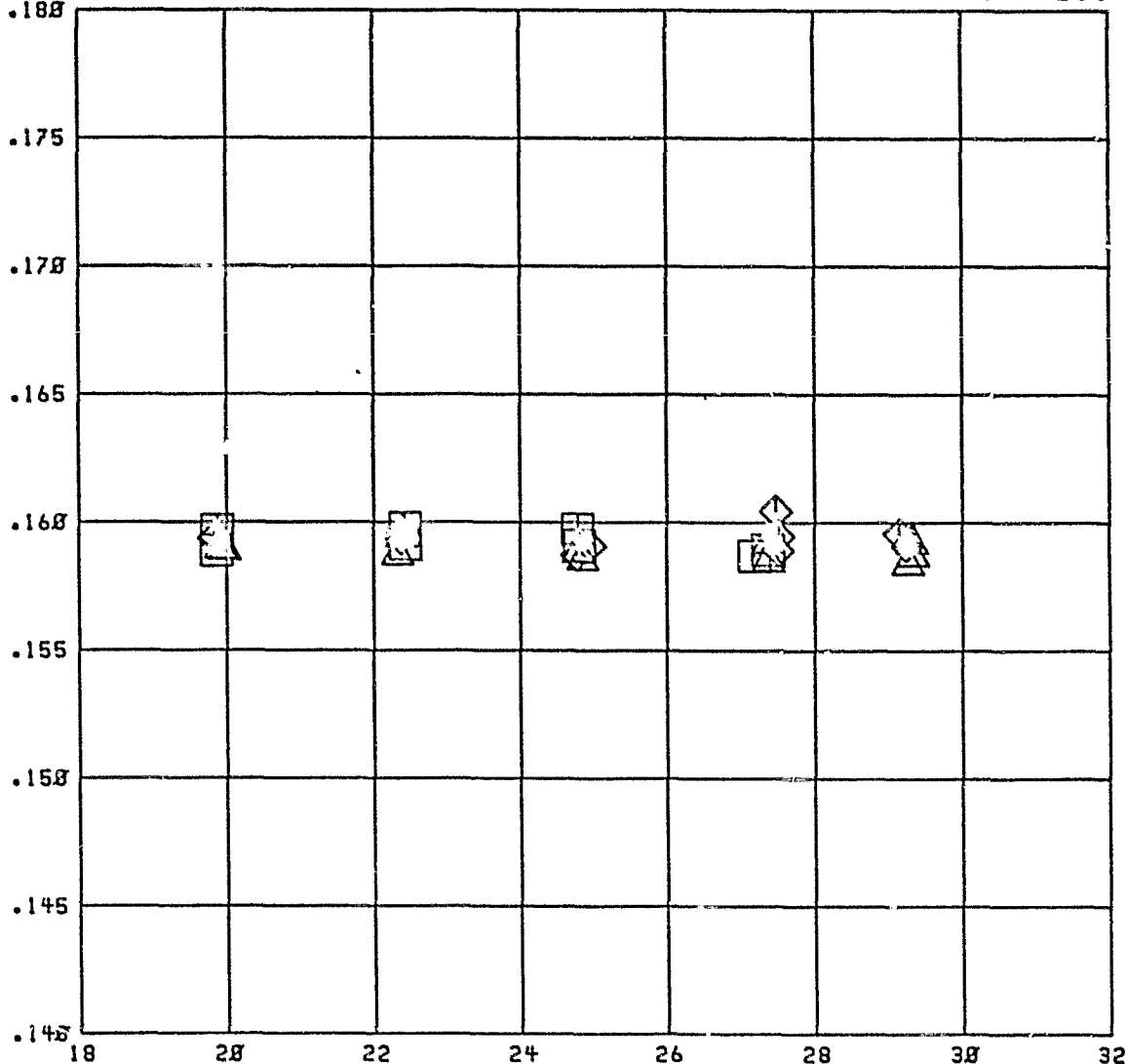
A1  
SUPERSONIC CRUISE

RUN 28

$M_o = 1.95$   $\omega = .028$

$P_{tC}/P_{tP} = \square = 2.8$   
 $\triangle = 2.32$   
 $\diamond = 2.6$

SECONDARY TO FAN TOTAL-PRESSURE RATIO,  $P_{tS}/P_{tF}$



FAN NOZZLE PRESSURE RATIO,  $P_{tF}/P_o$

RUN 20

A1

RDG=1249

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

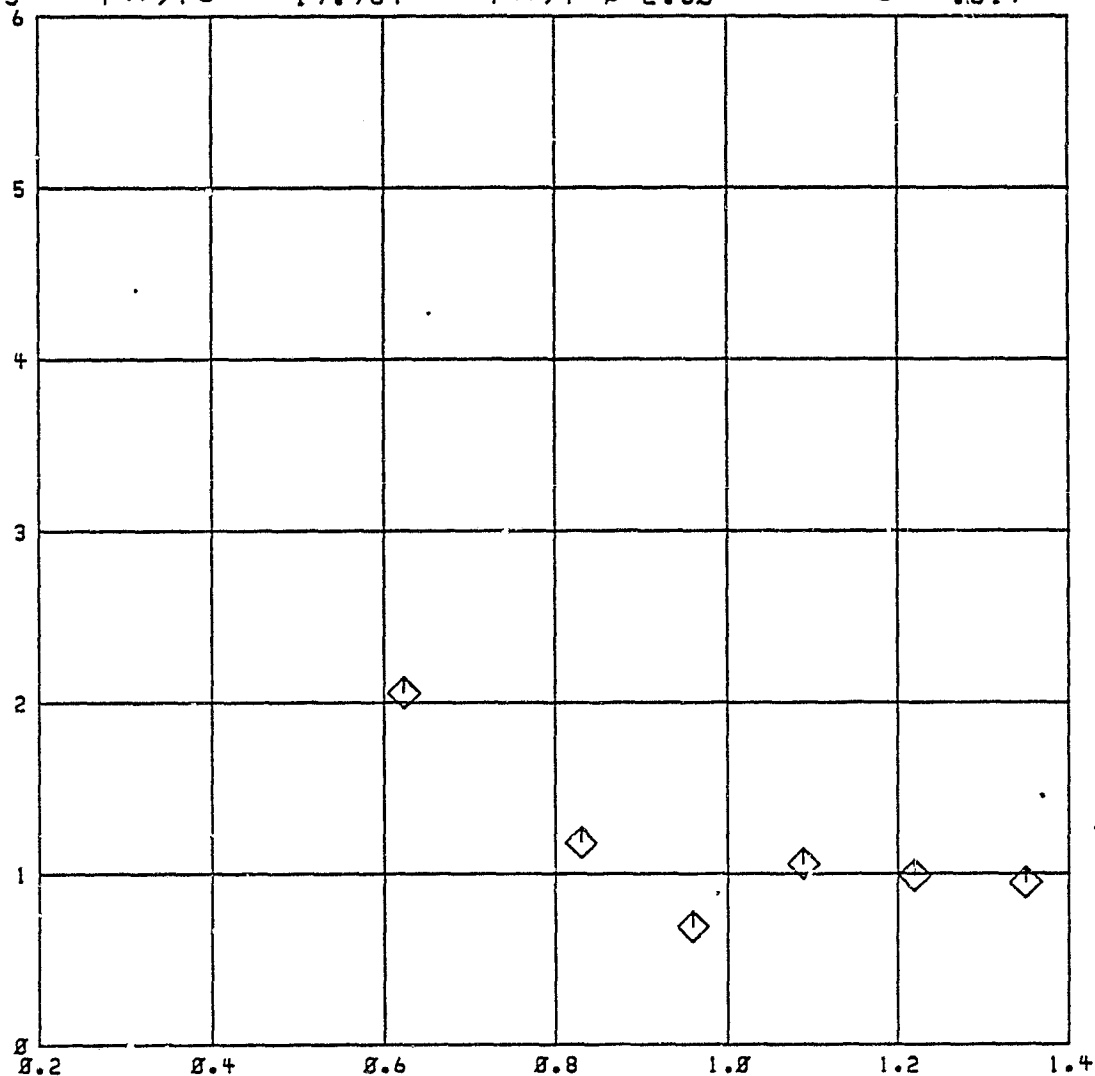
$M_\infty = 1.95$

$P_{tr}/P_\infty = 19.984$

$P_{tr}/P_{tp} = 2.30$

$\omega = .019$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_\infty$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

Run 20

A1

RDG=1252

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

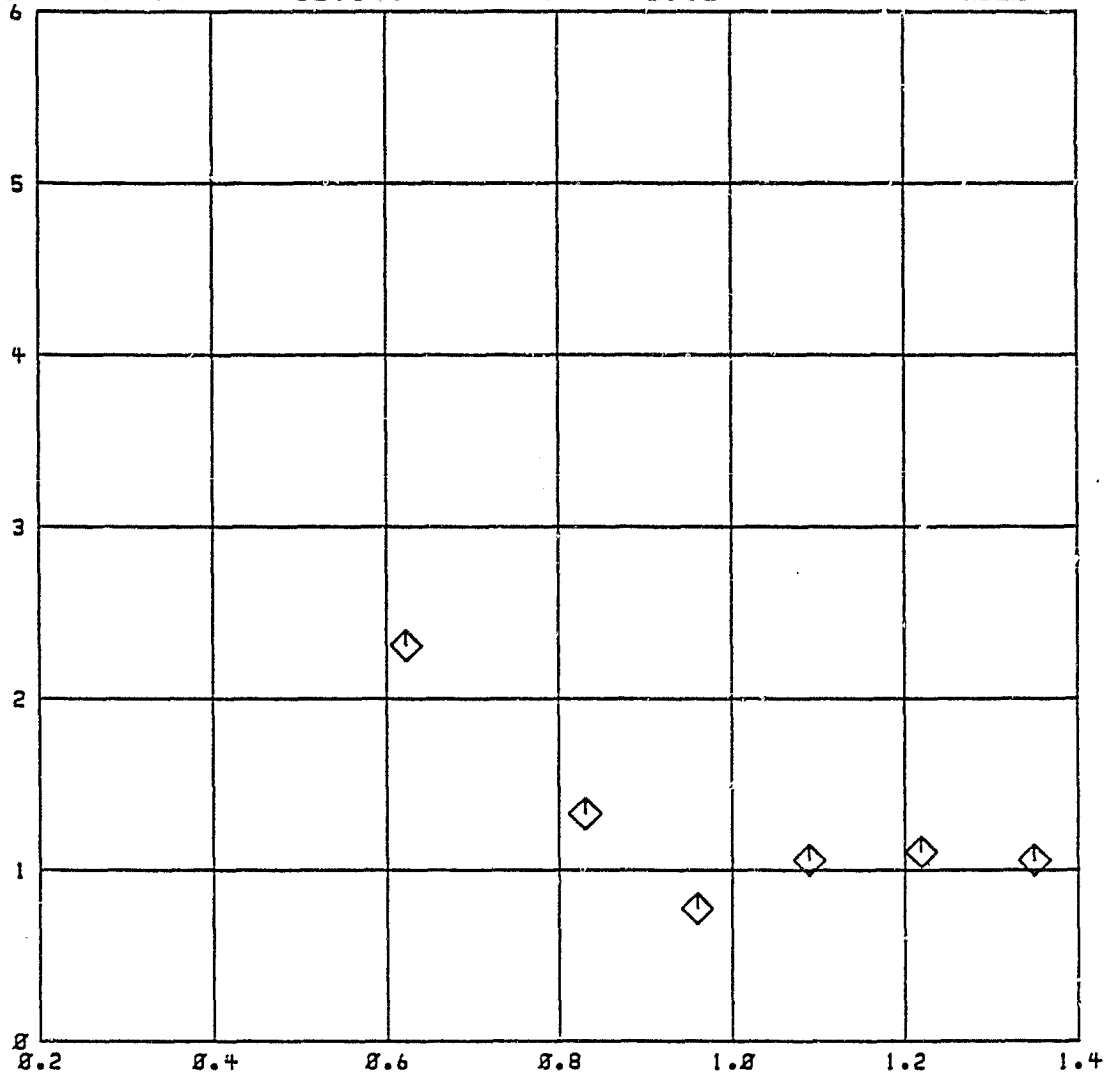
$M_0 = 1.95$

$P_{tr}/P_0 = 22.386$

$P_{tr}/P_{tp} = 2.32$

$\omega = .028$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_1/P_0$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 20

RDG=1255

A1

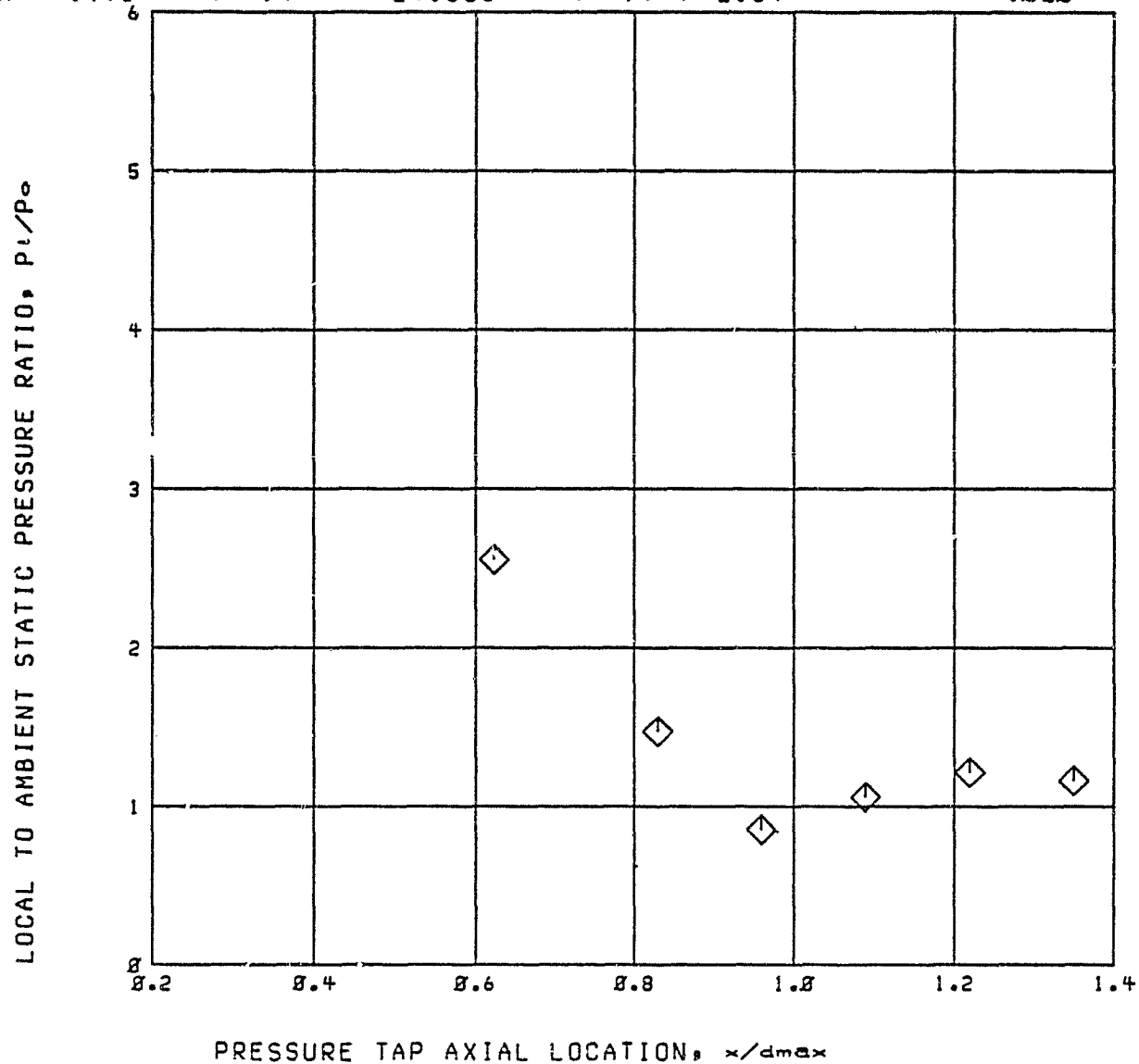
EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

$M_o = 1.95$

$P_{tr}/P_o = 24.858$

$P_{tr}/P_{tp} = 2.34$

$\omega = .020$



RUN 20

A1

RDG=1258

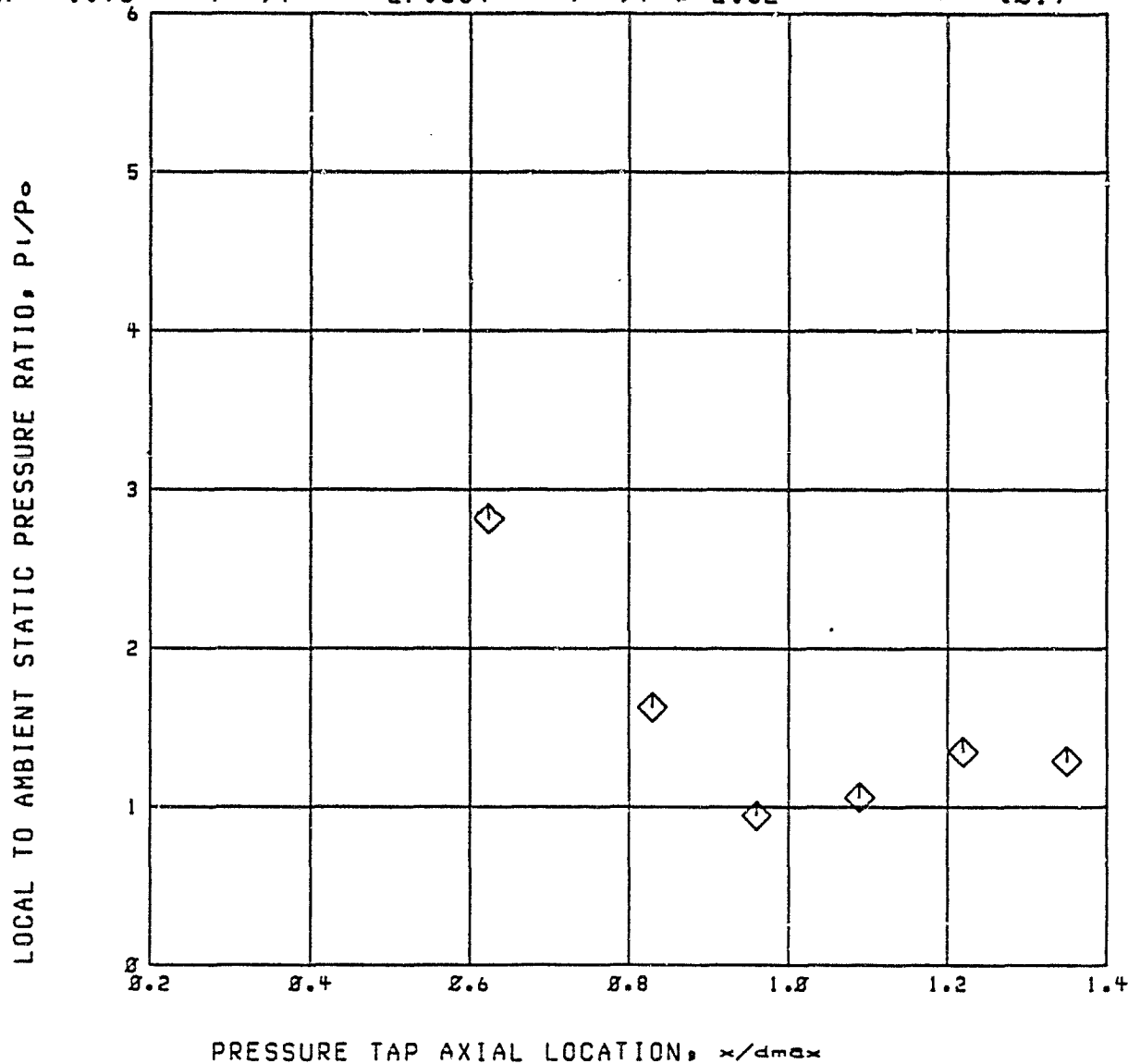
EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

$M_o = 1.95$

$P_{tr}/P_o = 27.384$

$P_{tr}/P_{trp} = 2.32$

$\omega = .019$





Run 20

RDG=1261

A1

EJECTOR SHROUD STATIC PRESSURE DISTRIBUTION AT SUPERSONIC CRUISE

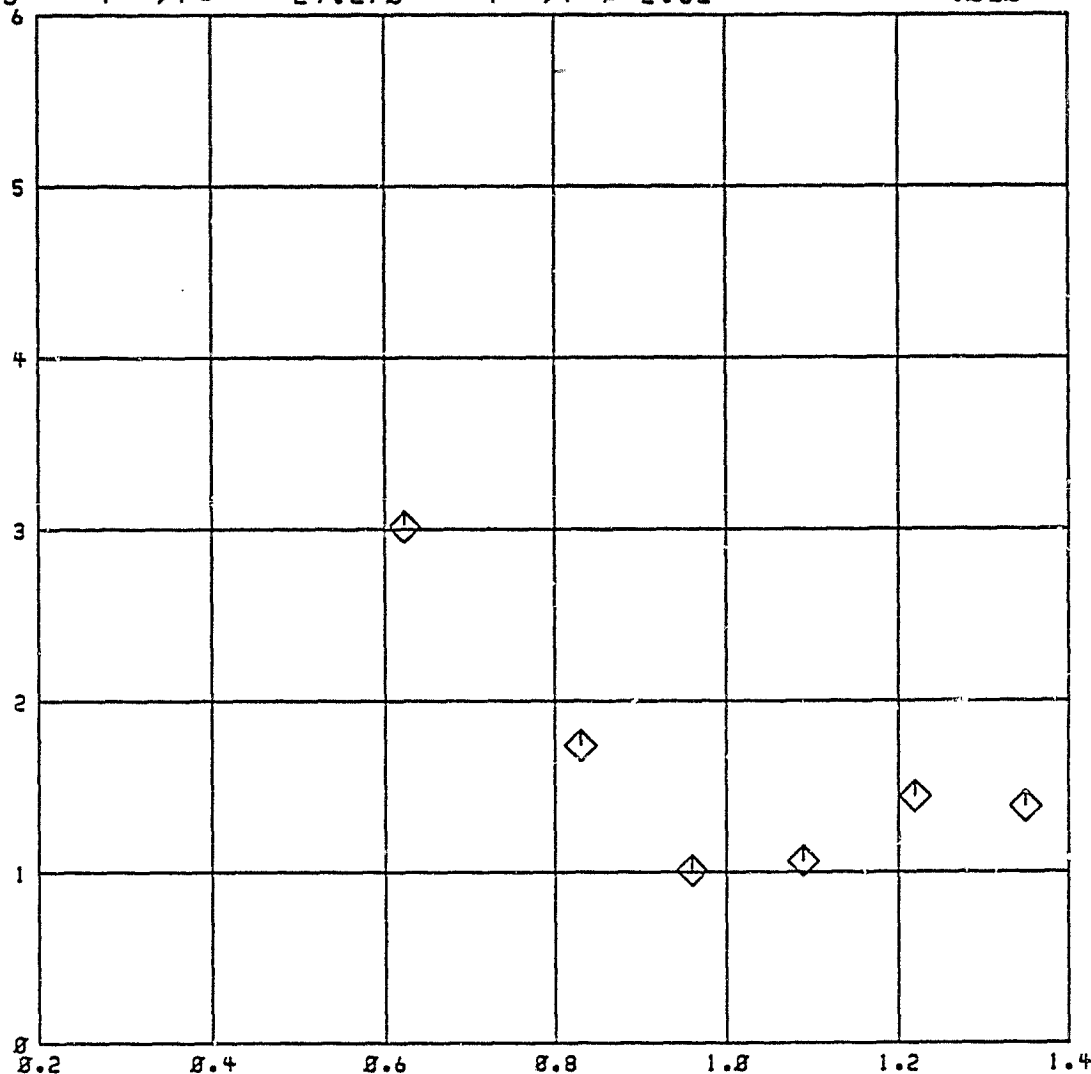
$M_o = 1.95$

$P_{tr}/P_o = 29.278$

$P_{tr}/P_{tp} = 2.32$

$\omega = .028$

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_o$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

**CONFIGURATION C<sub>2</sub>**  
**SHORT FLAP NOZZLE**  
**SUBSONIC CRUISE**

RDG. 1685-1717

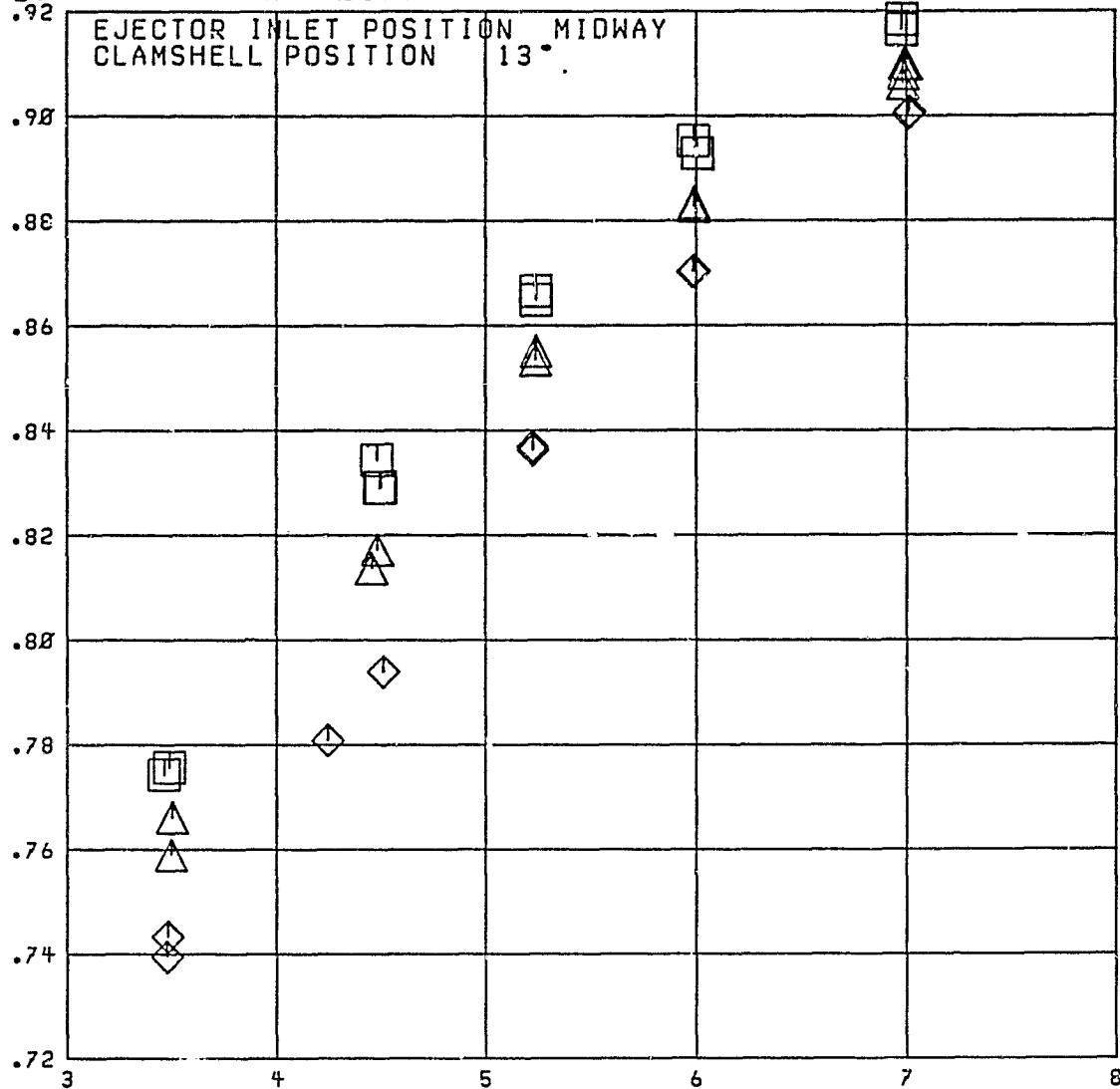
C2  
SUBSONIC CRUISE

RUN 29

$M_\infty = 0.89$

$P_{tr}/P_{tp} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$

NOZZLE GROSS THRUST COEFFICIENT,  $CFPI$



FAN NOZZLE PRESSURE RATIO,  $PTF/PO$

RDG 1685-1717

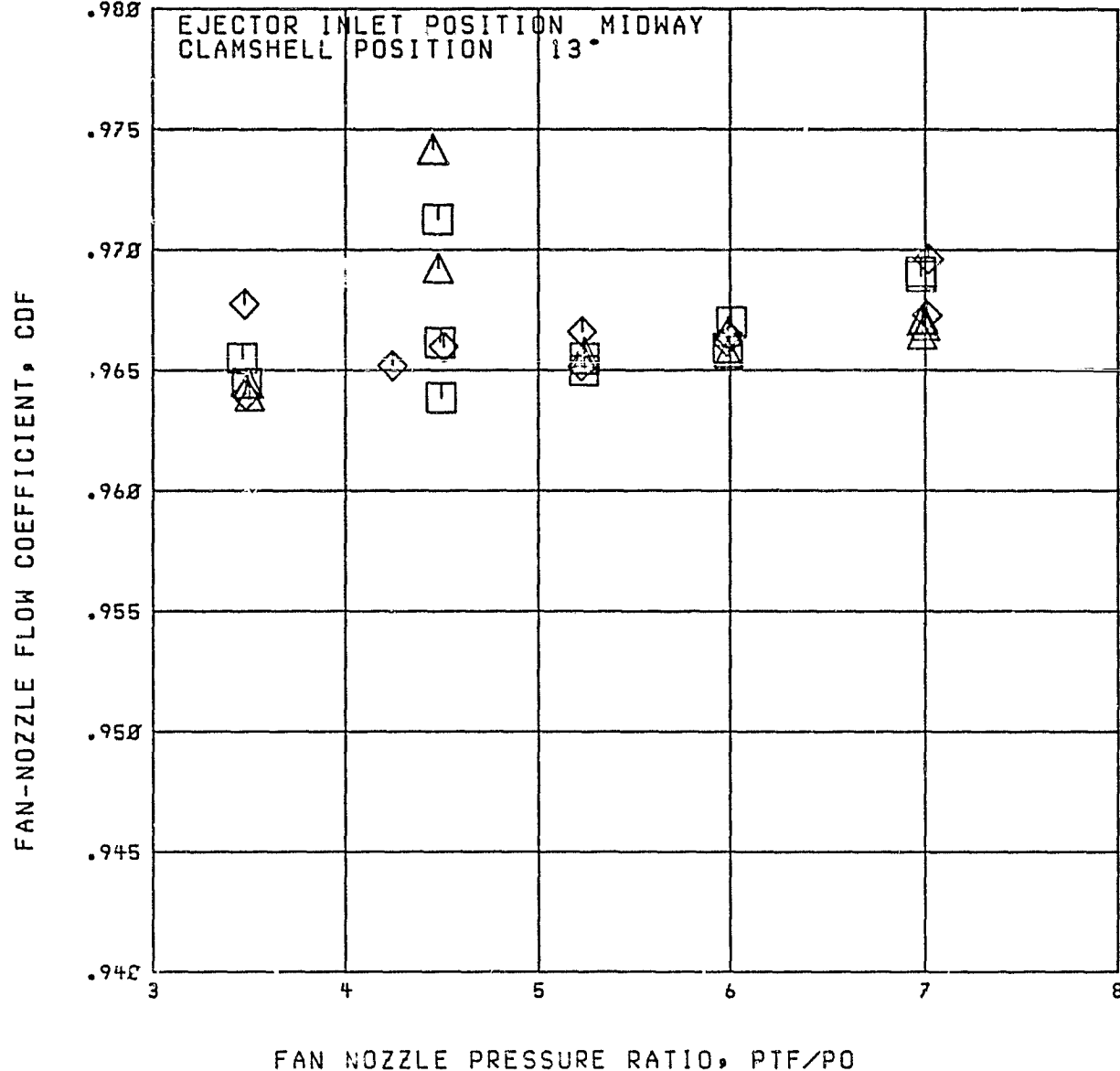
C2

SUBSONIC CRUISE

RUN 29

$M_0 = 0.89$

$P_{tr}/P_{tr} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$



RDG. 1685-1717

C2

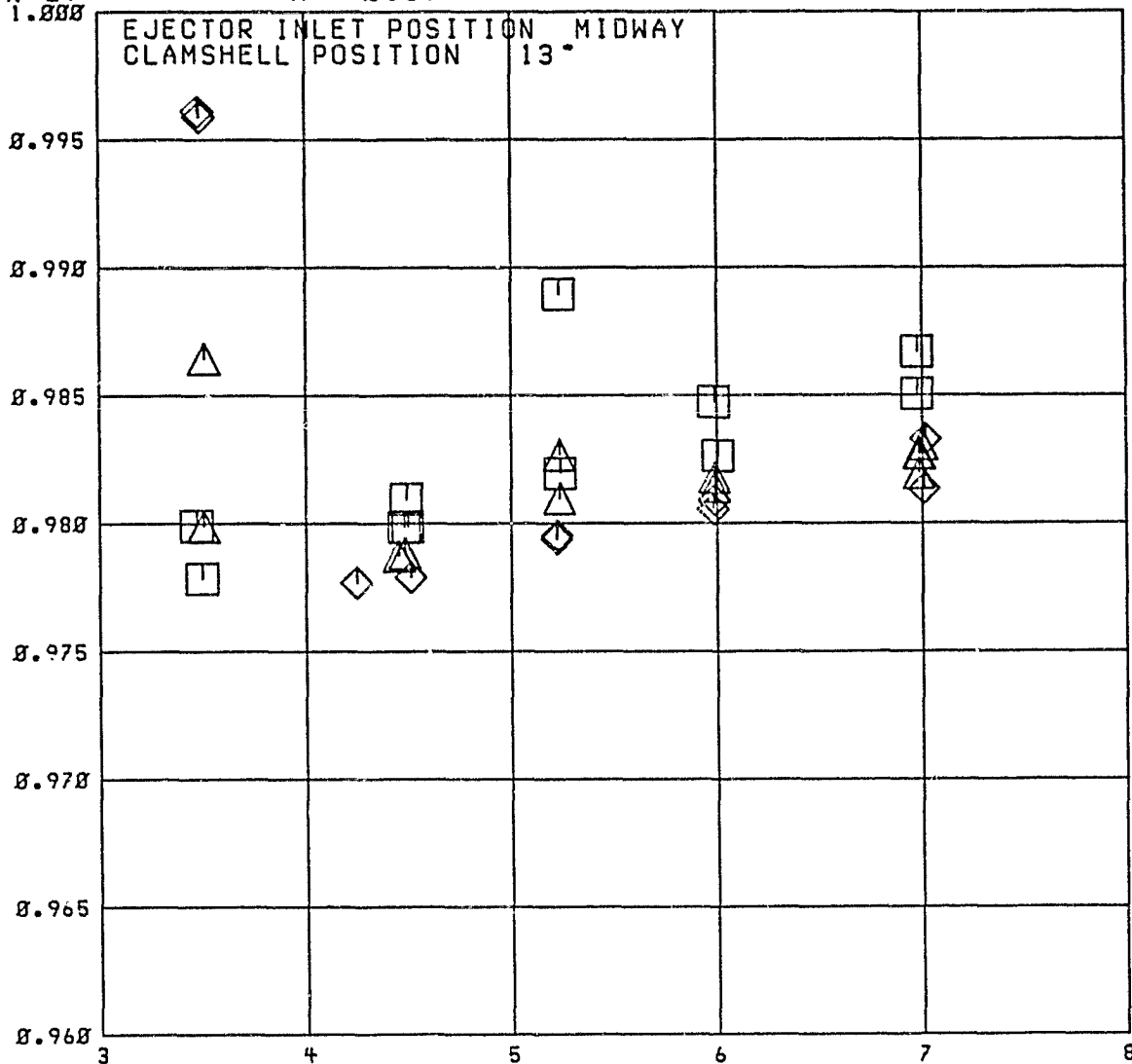
SUBSONIC CRUISE

RUN 29

$M_0 = 0.89$

$P_{tF}/P_{tP} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$

PRIMARY-NOZZLE FLOW COEFFICIENT, CDP



FAN NOZZLE PRESSURE RATIO,  $P_{tF}/P_0$

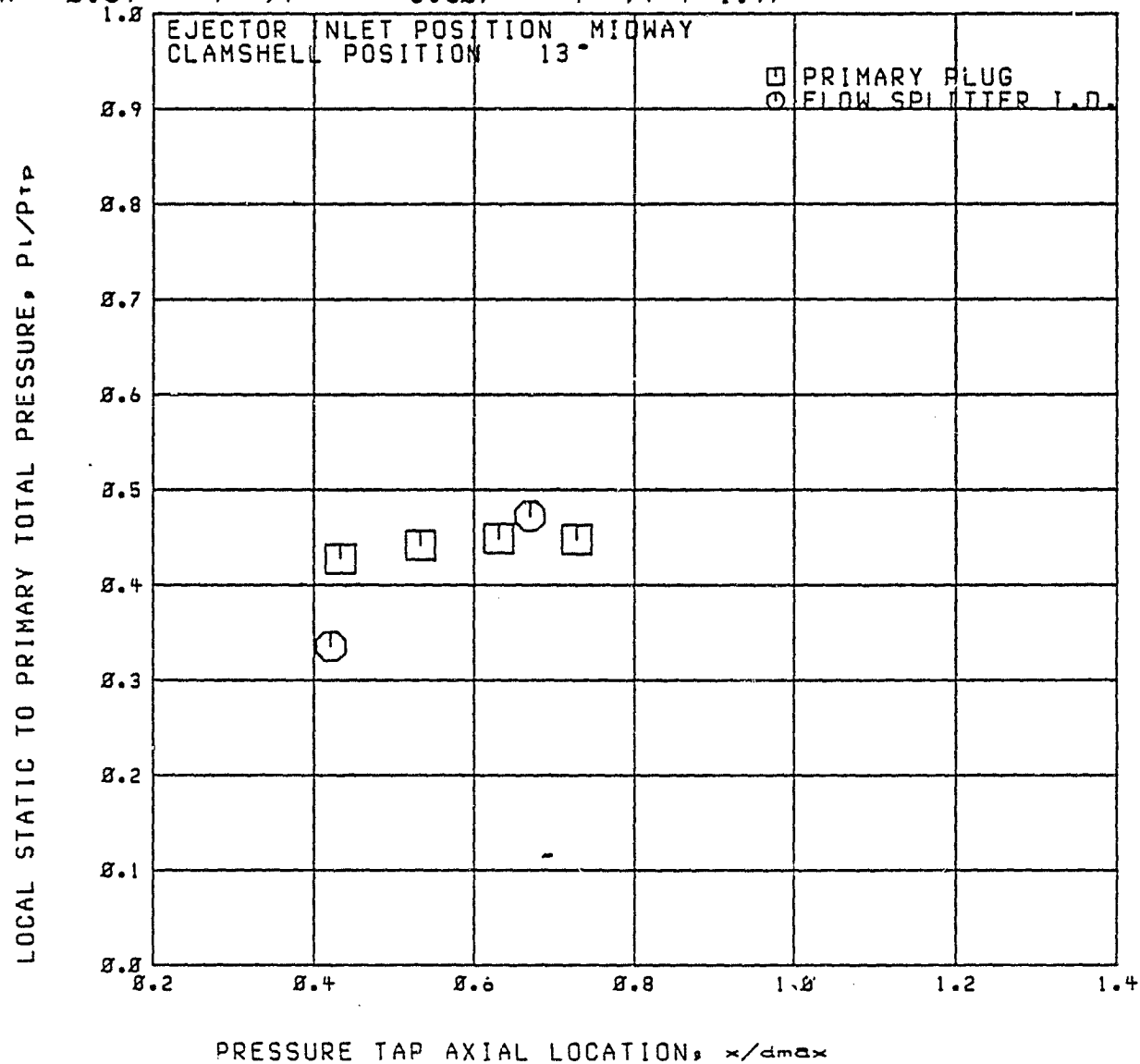
RUN 29

RDG=1696

C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$   $P_{tr}/P_0 = 3.507$   $P_{tr}/P_{tp} = 1.97$



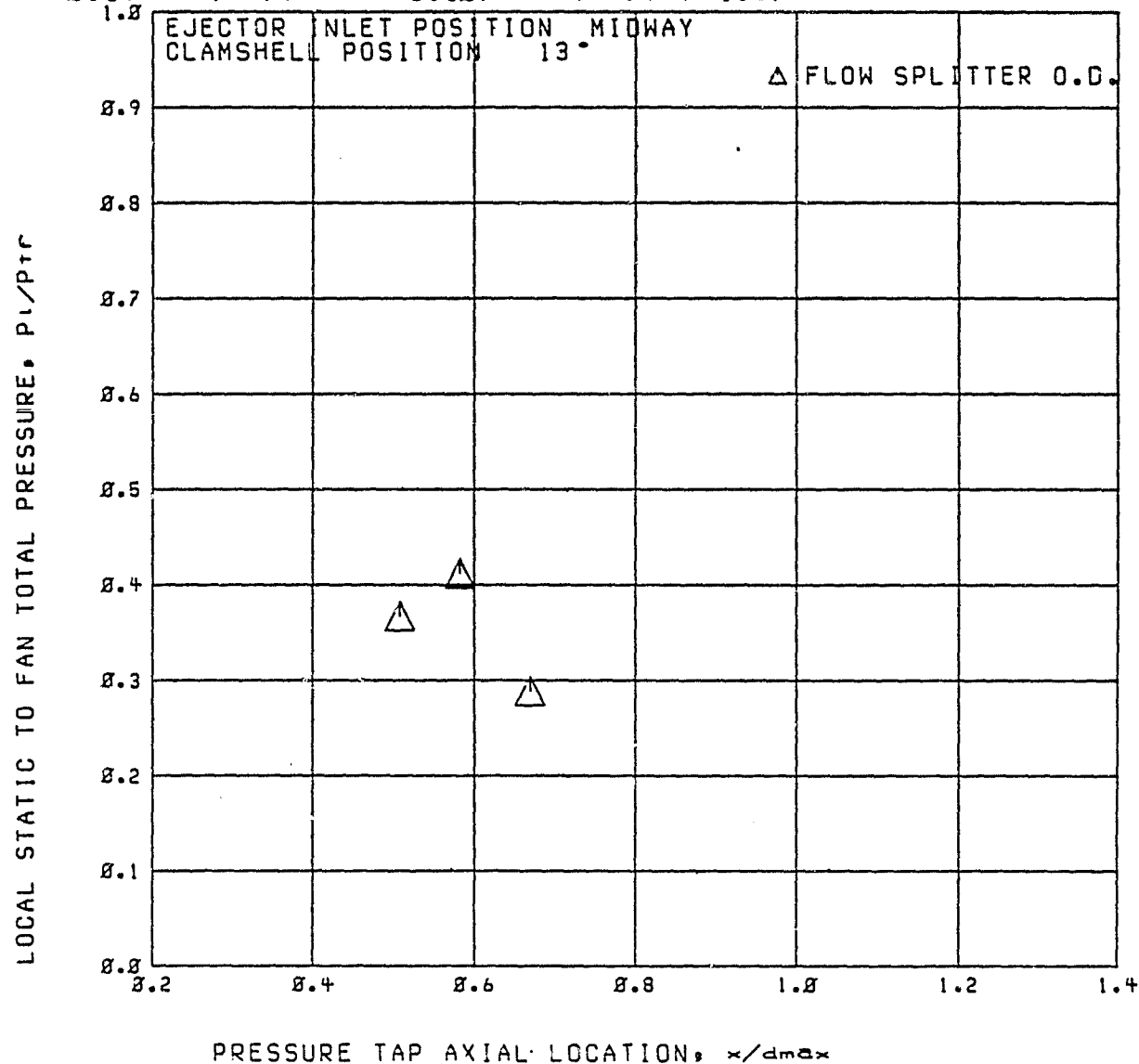
RUN 27

RDG=1696

C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$   $P_{tr}/P_0 = 3.507$   $P_{tr}/P_{tp} = 1.97$



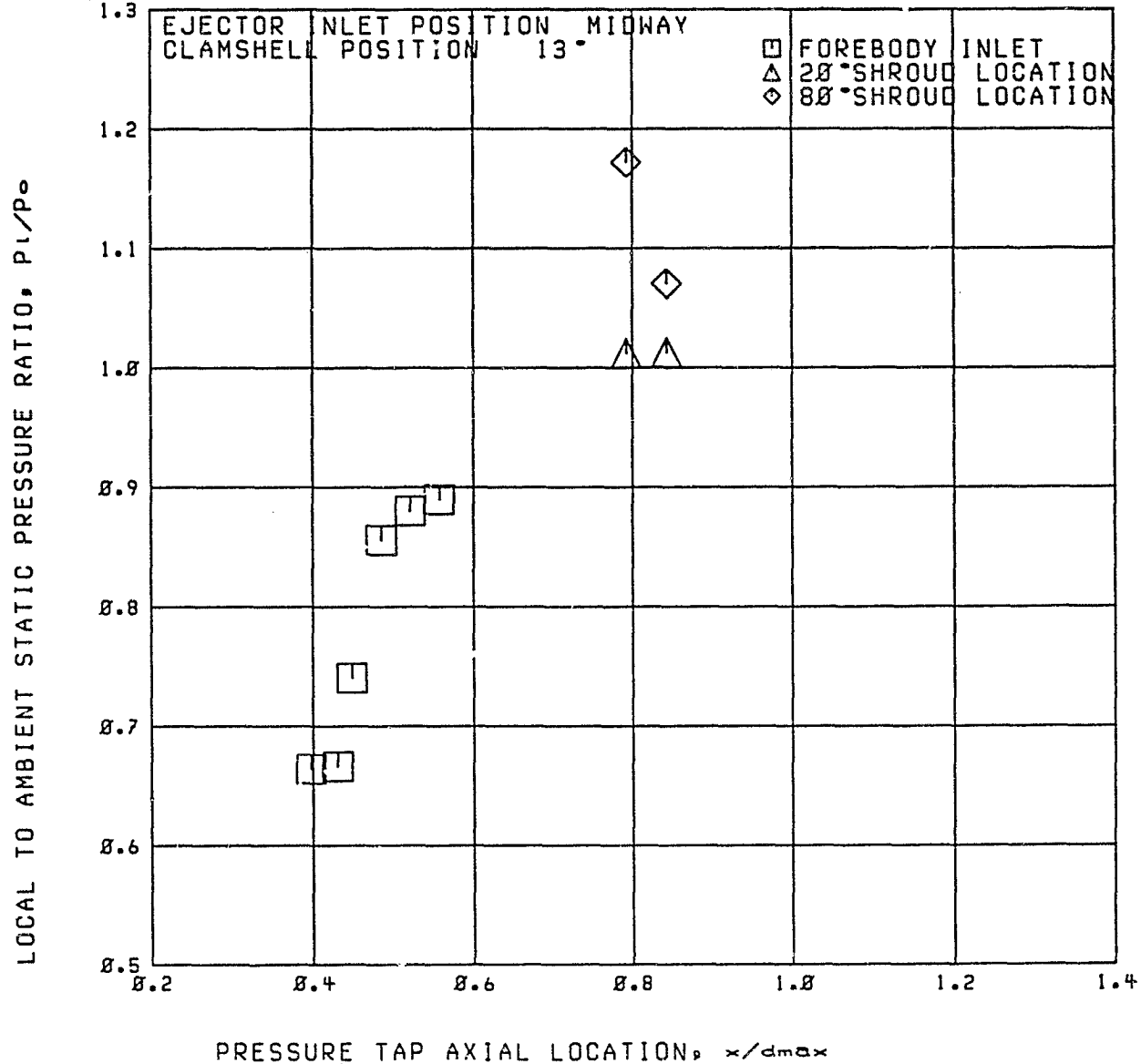
RUN 29

RDG=1696

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 3.507$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE





RUN 29

RDG=1697

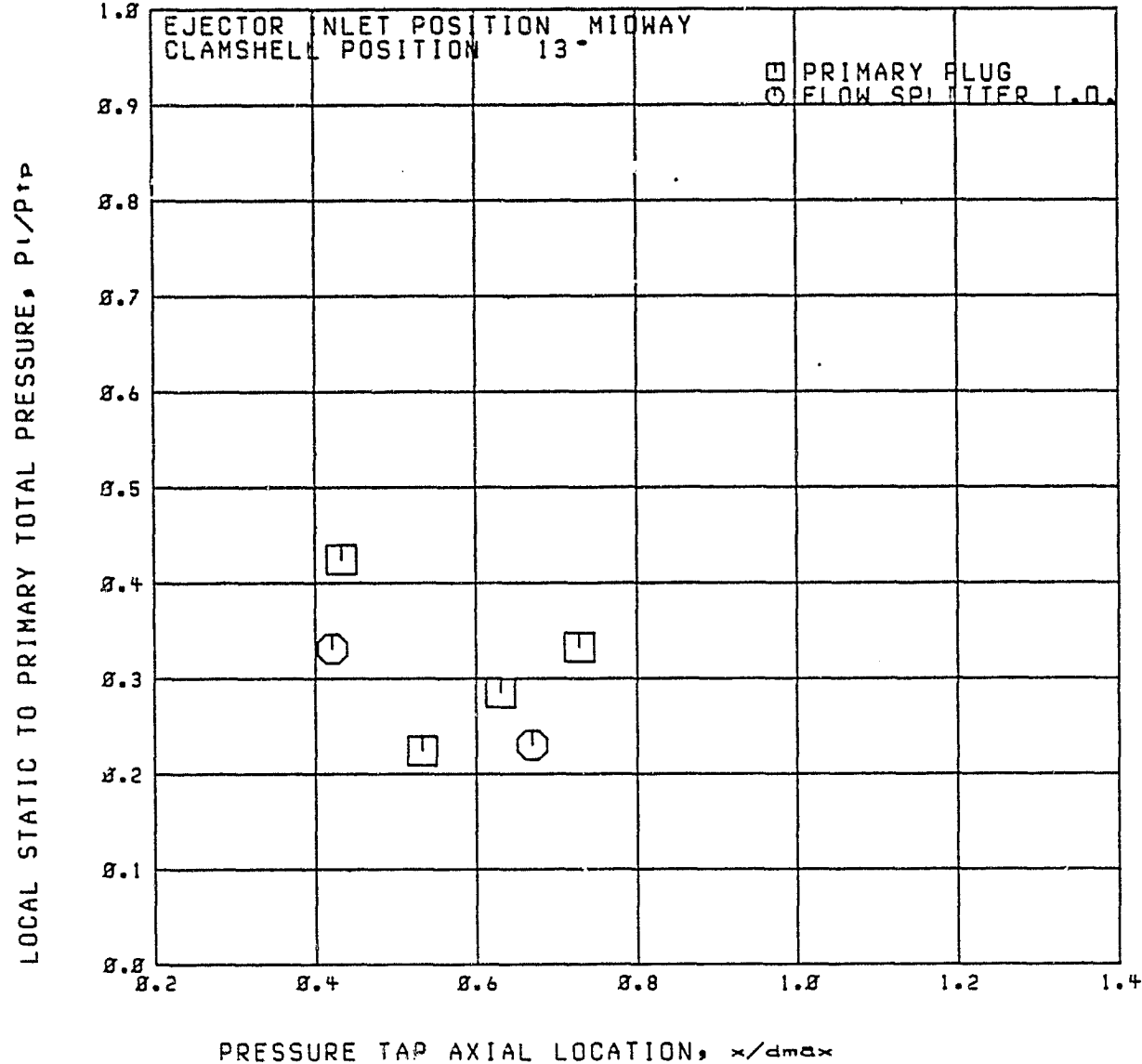
C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$

$P_{tr}/P_{oz} = 4.456$

$P_{tr}/P_{tp} = 1.97$



Run 29

RDG=1697

C2

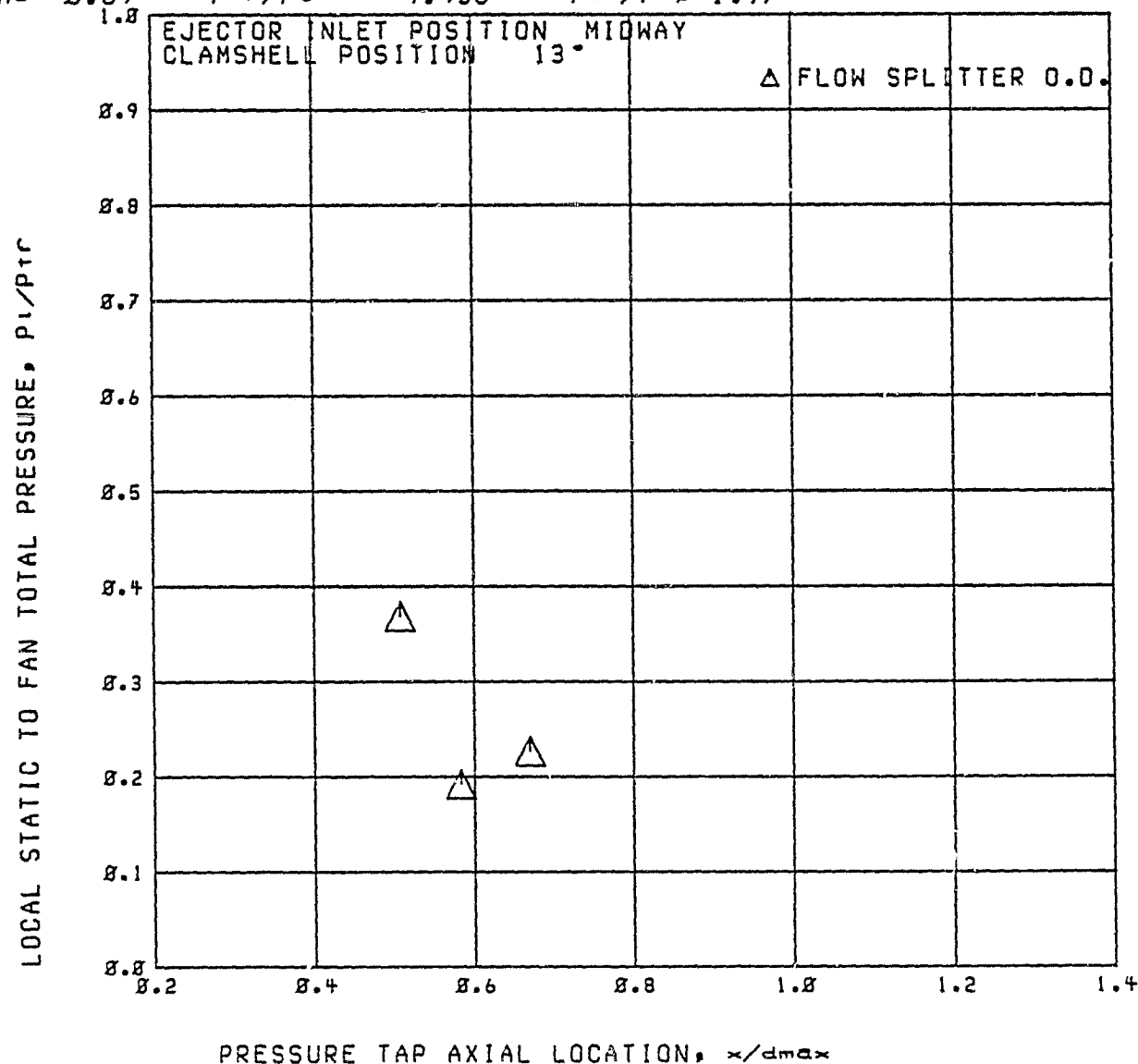
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 =$

4.456

$P_{tr}/P_{tp} = 1.97$



RUN 29

RDG=1697

C2

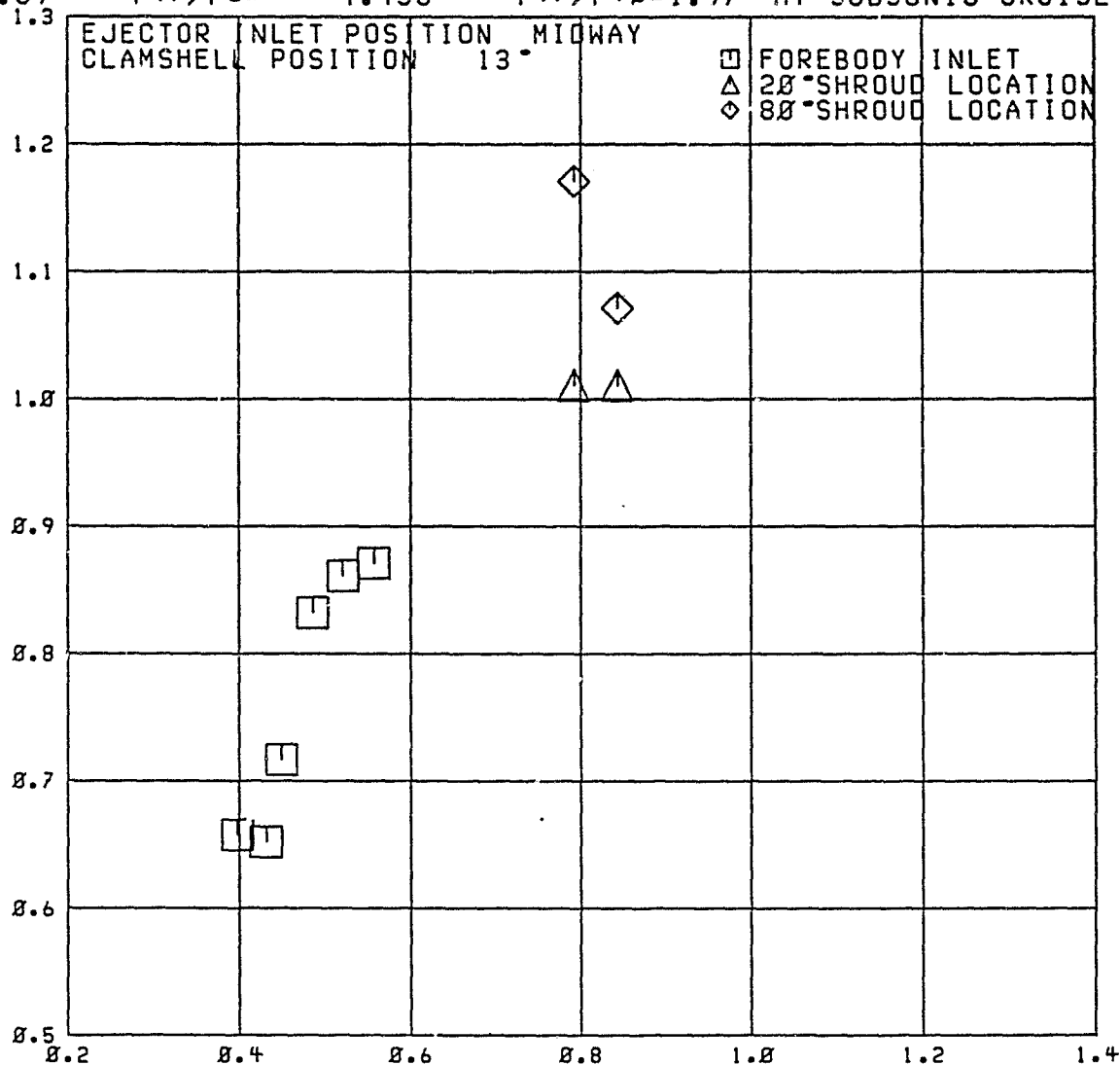
# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$

$P_{tr}/P_o = 4.456$

$P_{tr}/P_{tr} = 1.97$  AT SUBSONIC CRUISE

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_o$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 29

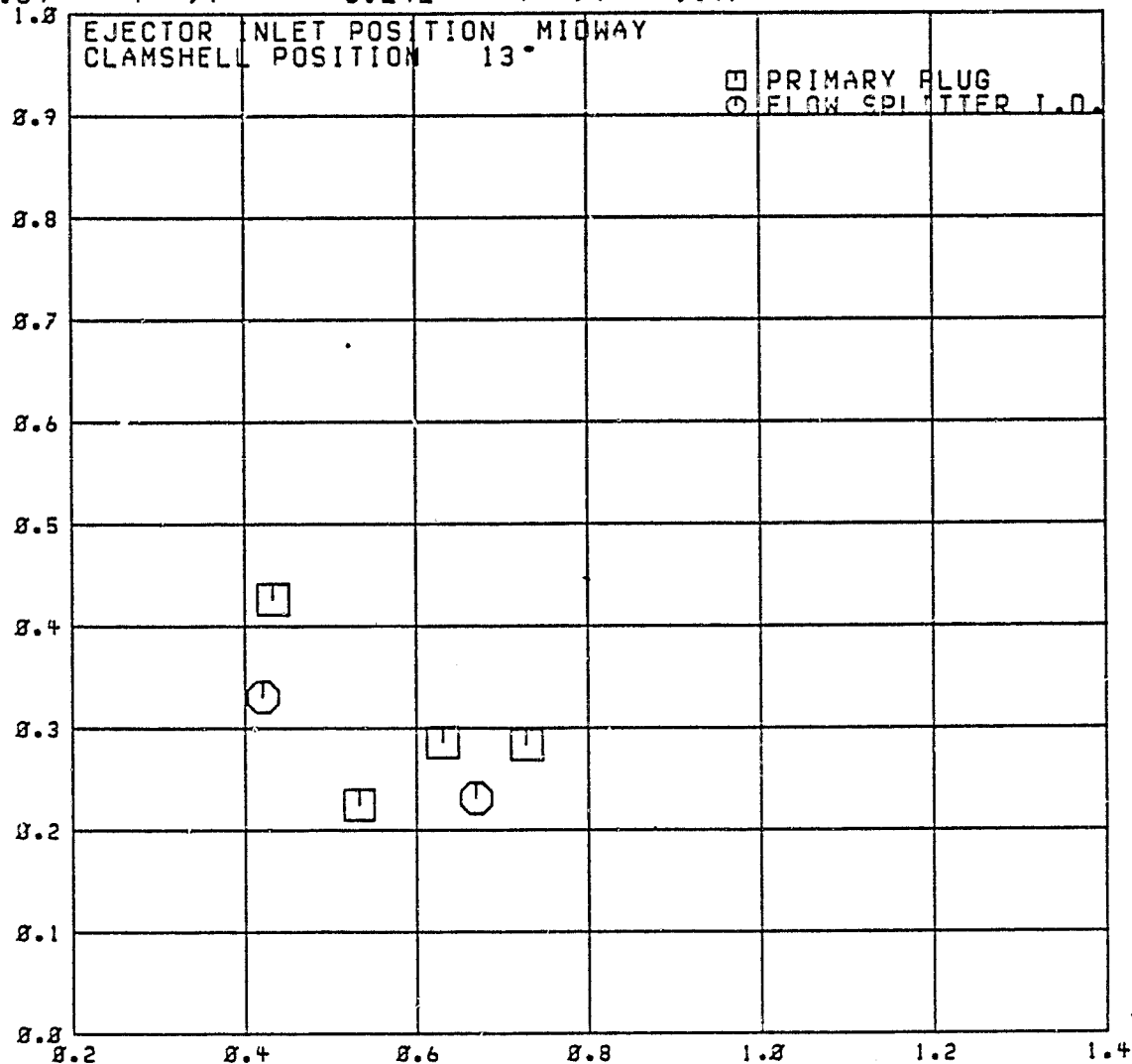
RDG=1698

C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$      $P_{tr}/P_0 = 5.242$      $P_{tr}/P_{tp} = 1.97$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 29

RDG=1698

C2

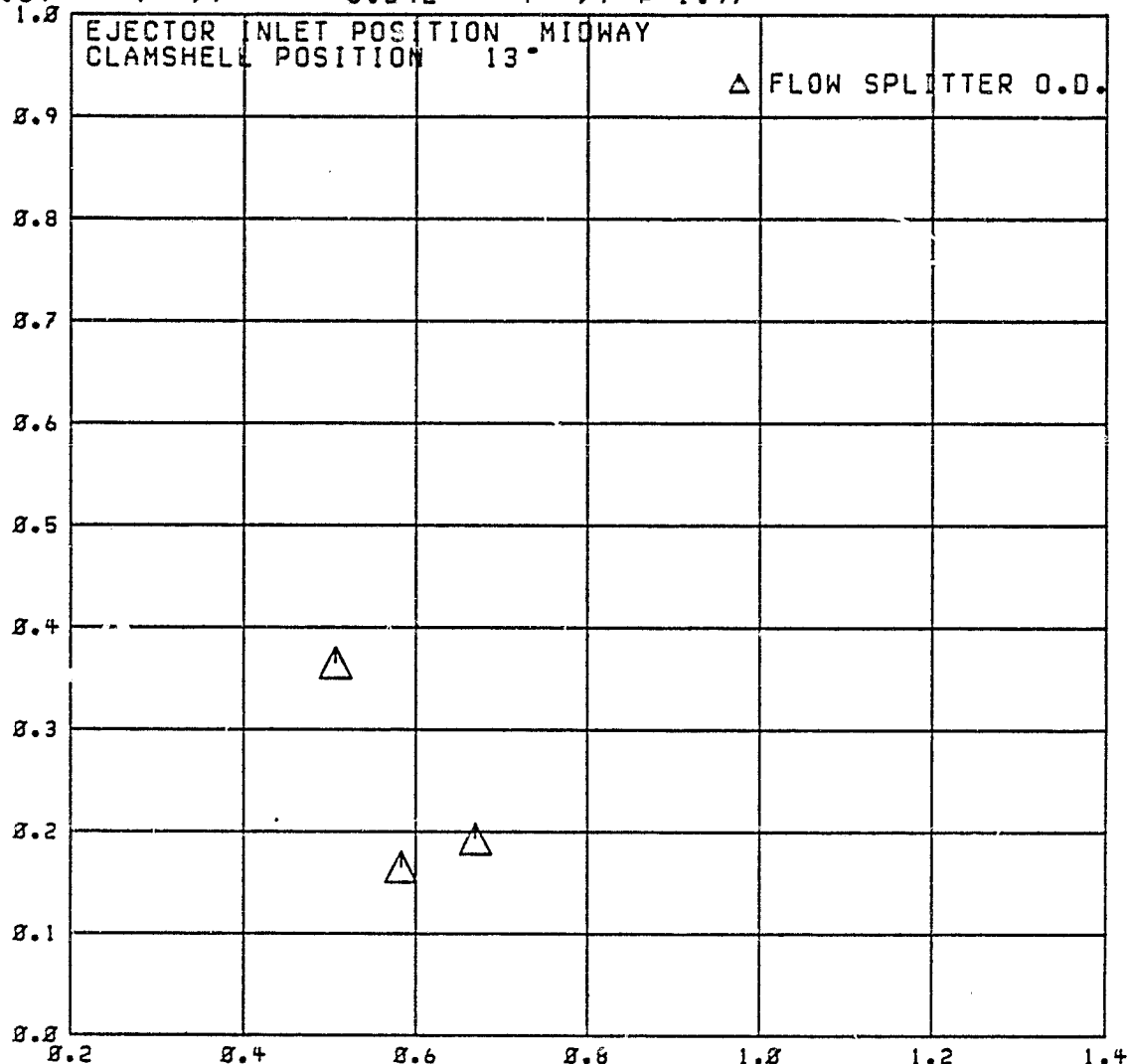
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 = 5.242$

$P_{tr}/P_{tp} = 1.97$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 27

RDG=1698

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$

$P_{tr}/P_o =$

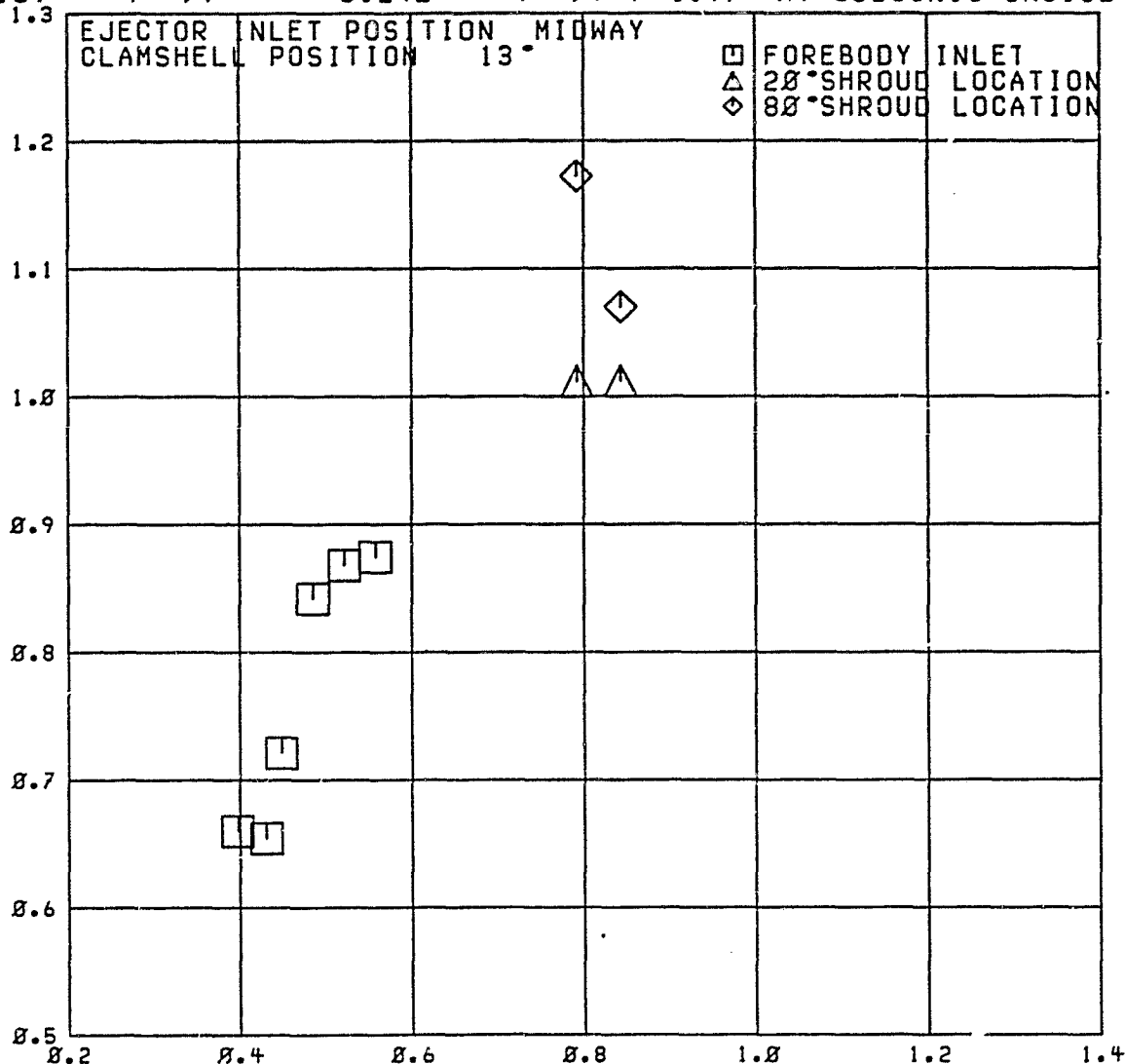
5.242

$P_{tr}/P_{tp} =$

1.97

AT SUBSONIC CRUISE

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_o$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

Run 29

RDG=1699

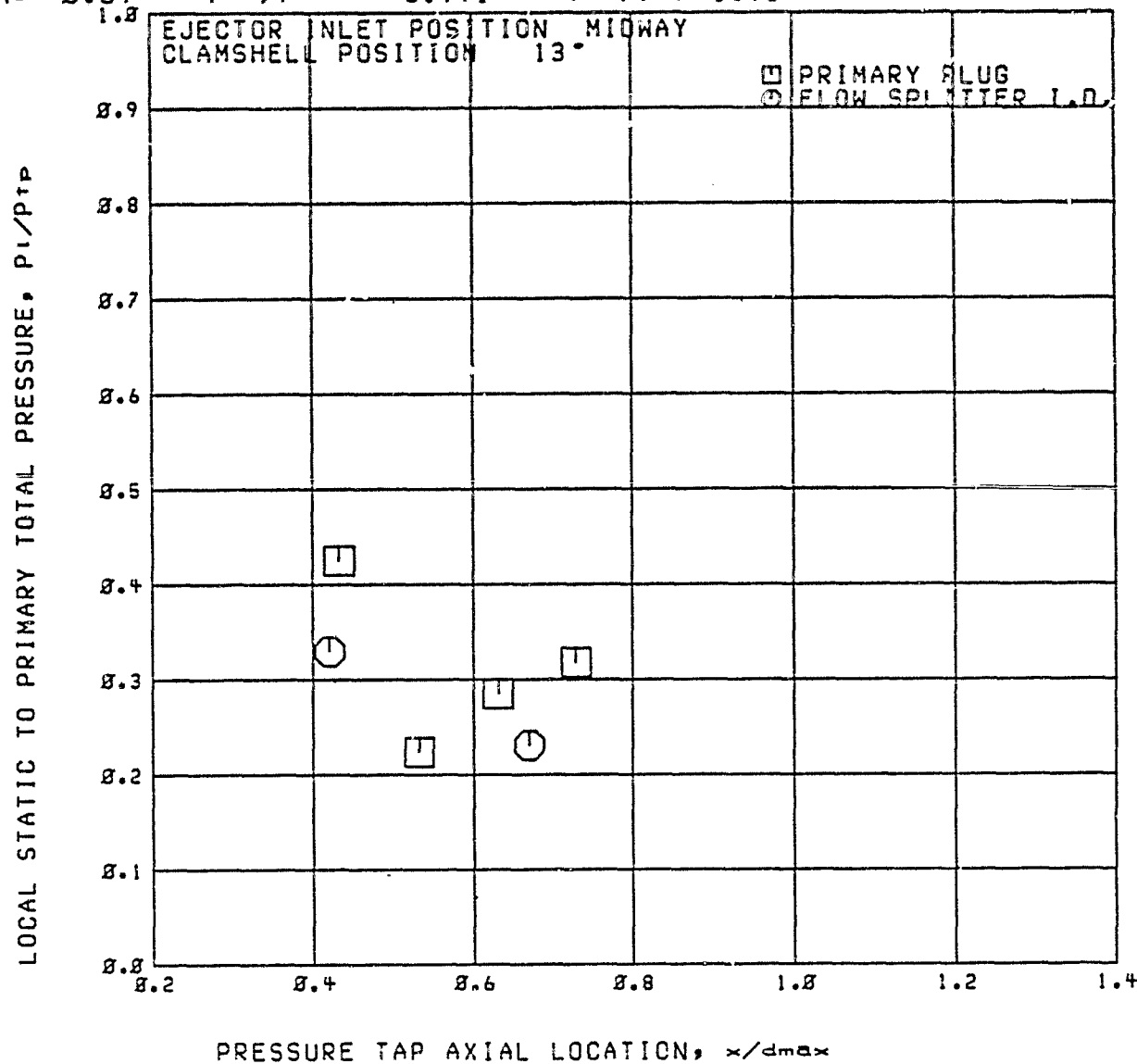
C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 = 5.991$

$P_{tr}/P_{tr} = 1.96$



RUN 27

C2

RDG=1699

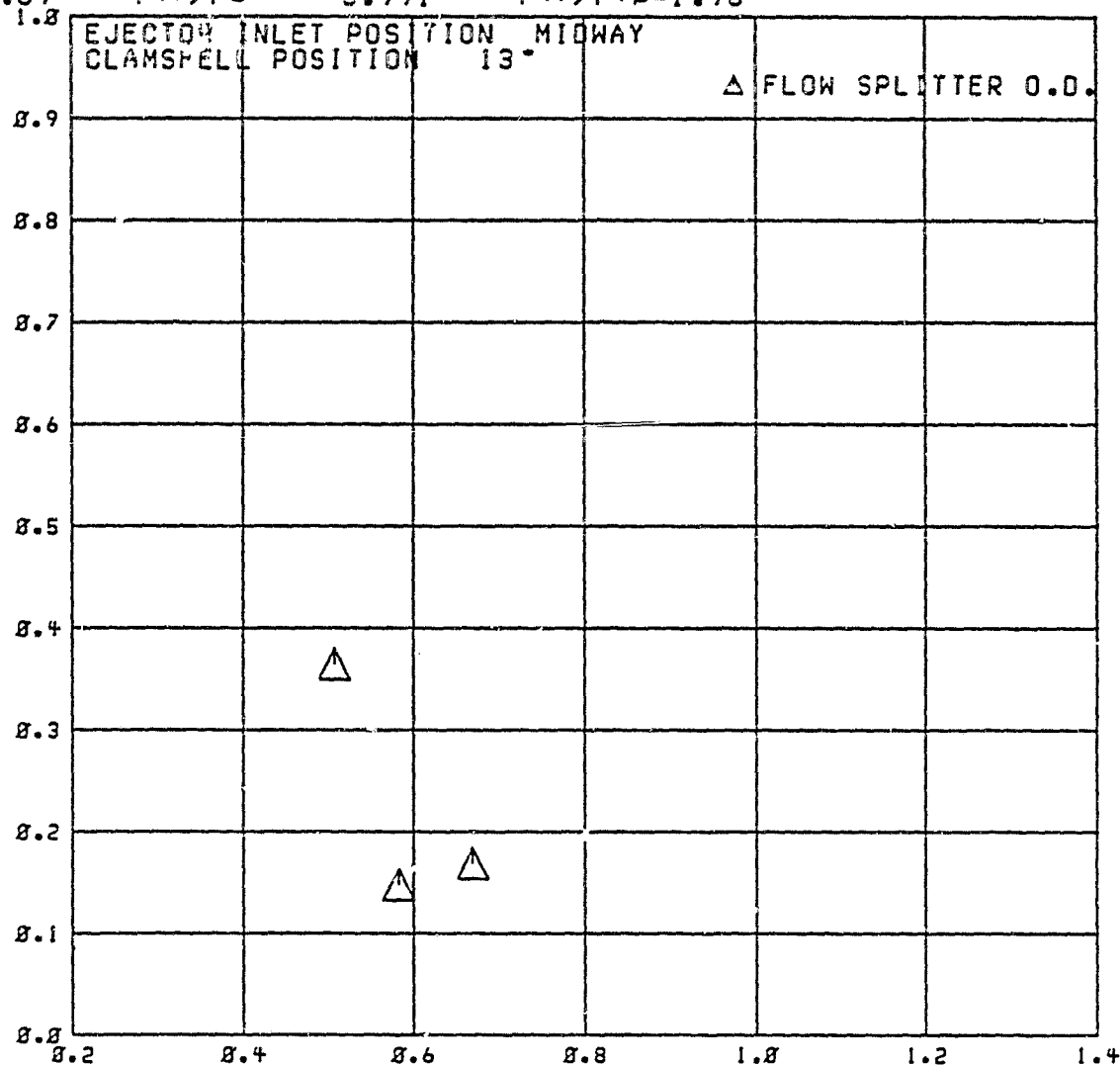
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 = 5.991$

$P_{tr}/P_{tp} = 1.96$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$



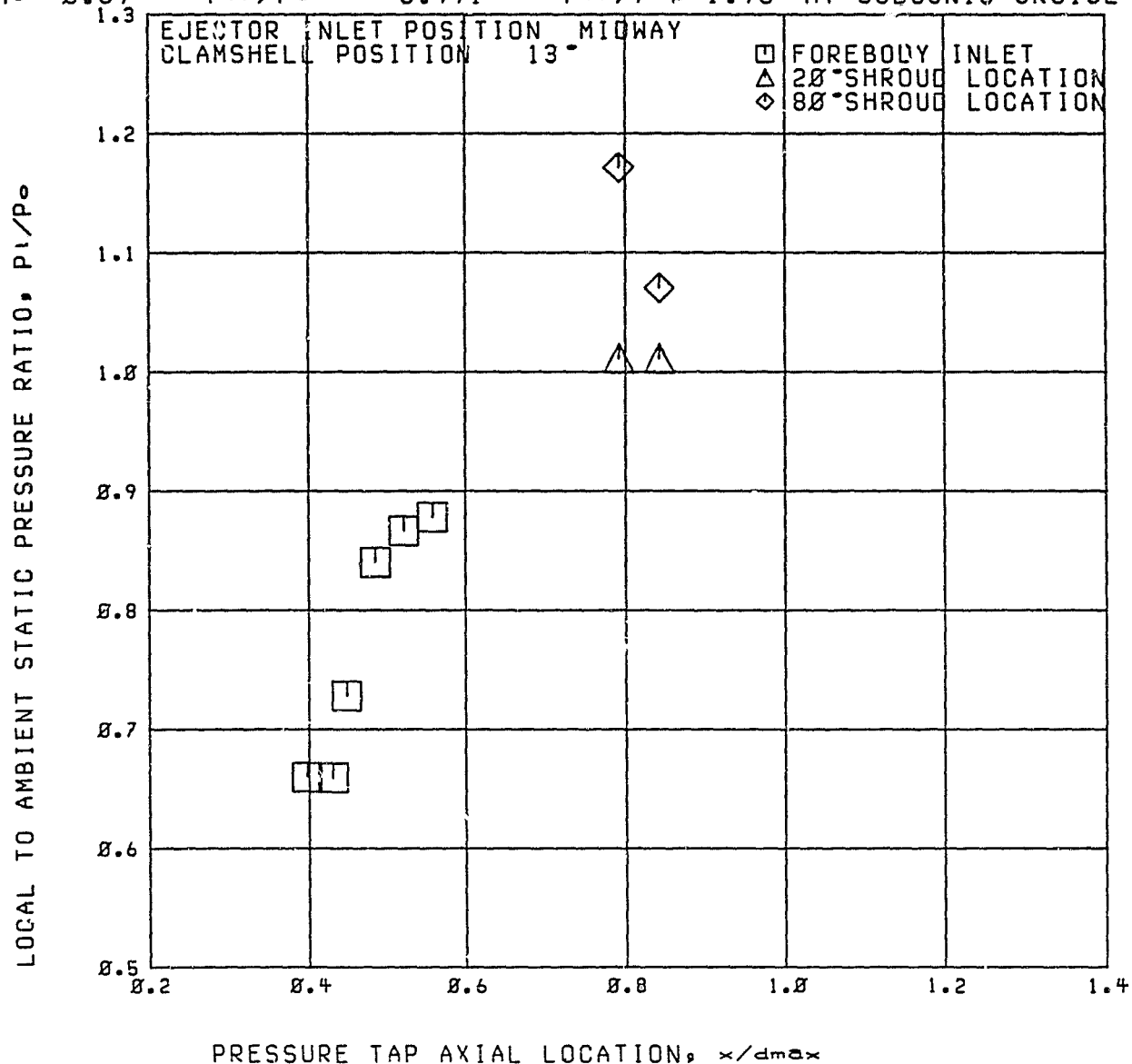
RUN 29

RDG=1699

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 5.991$   $P_{tr}/P_{tr} = 1.96$  AT SUBSONIC CRUISE



Run 29

C2

RDG=1700

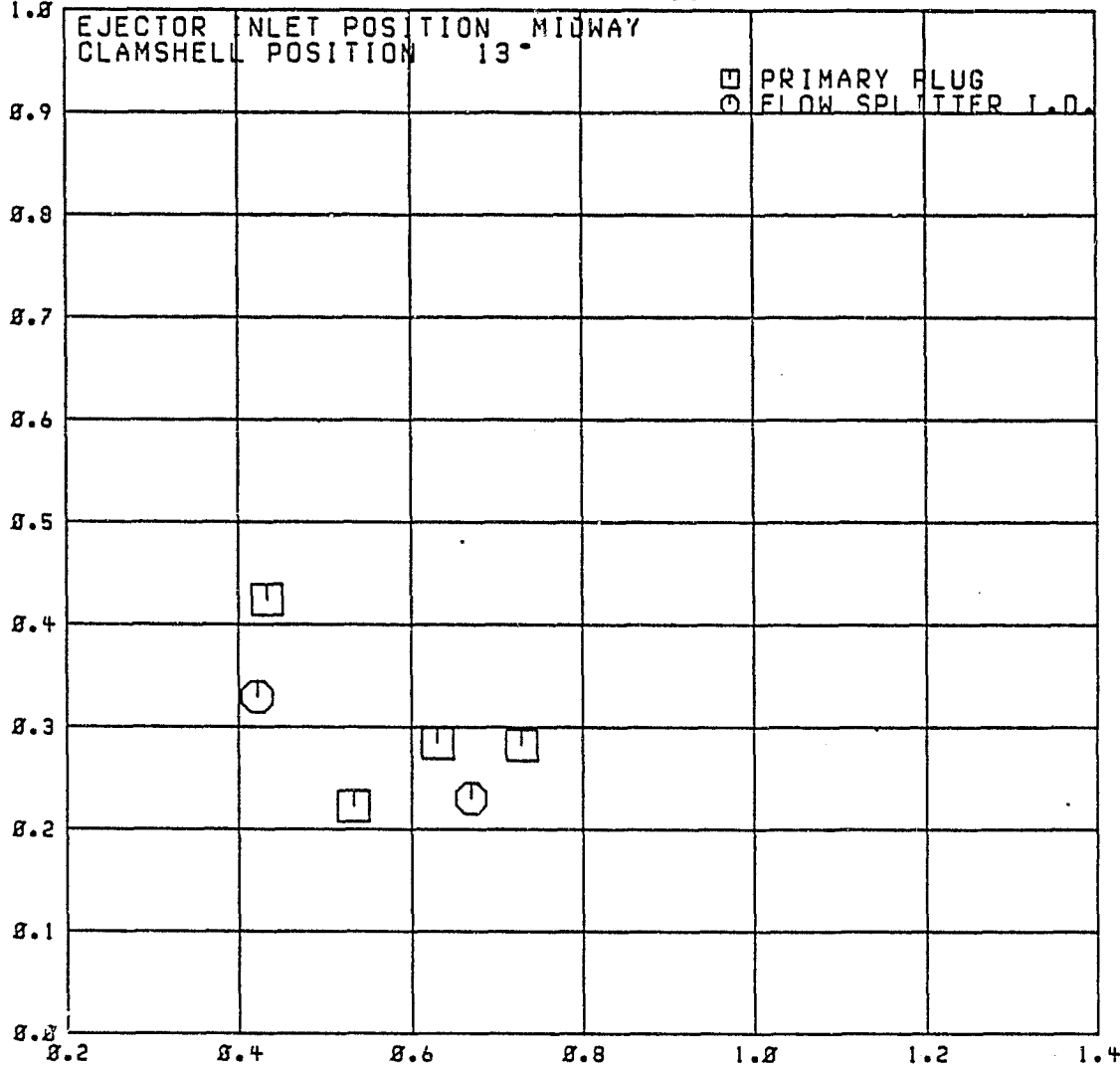
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$

$P_{tr}/P_o = 6.986$

$P_{tr}/P_{tp} = 1.97$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

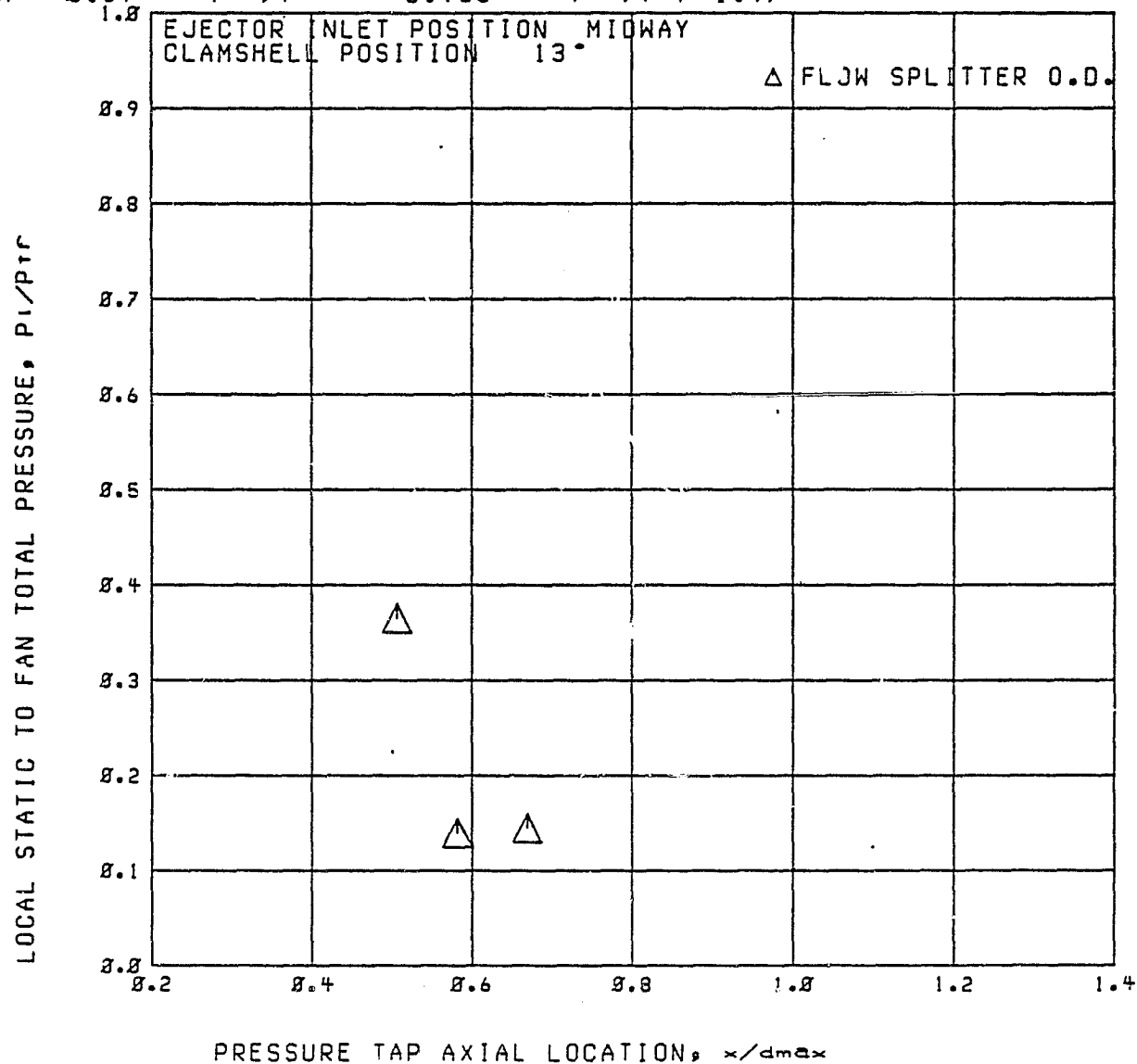
RUN 29

C2

RDG=1700

PLUS AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$        $P_{tr}/P_0 = 6.986$        $P_{tr}/P_{tp} = 1.97$



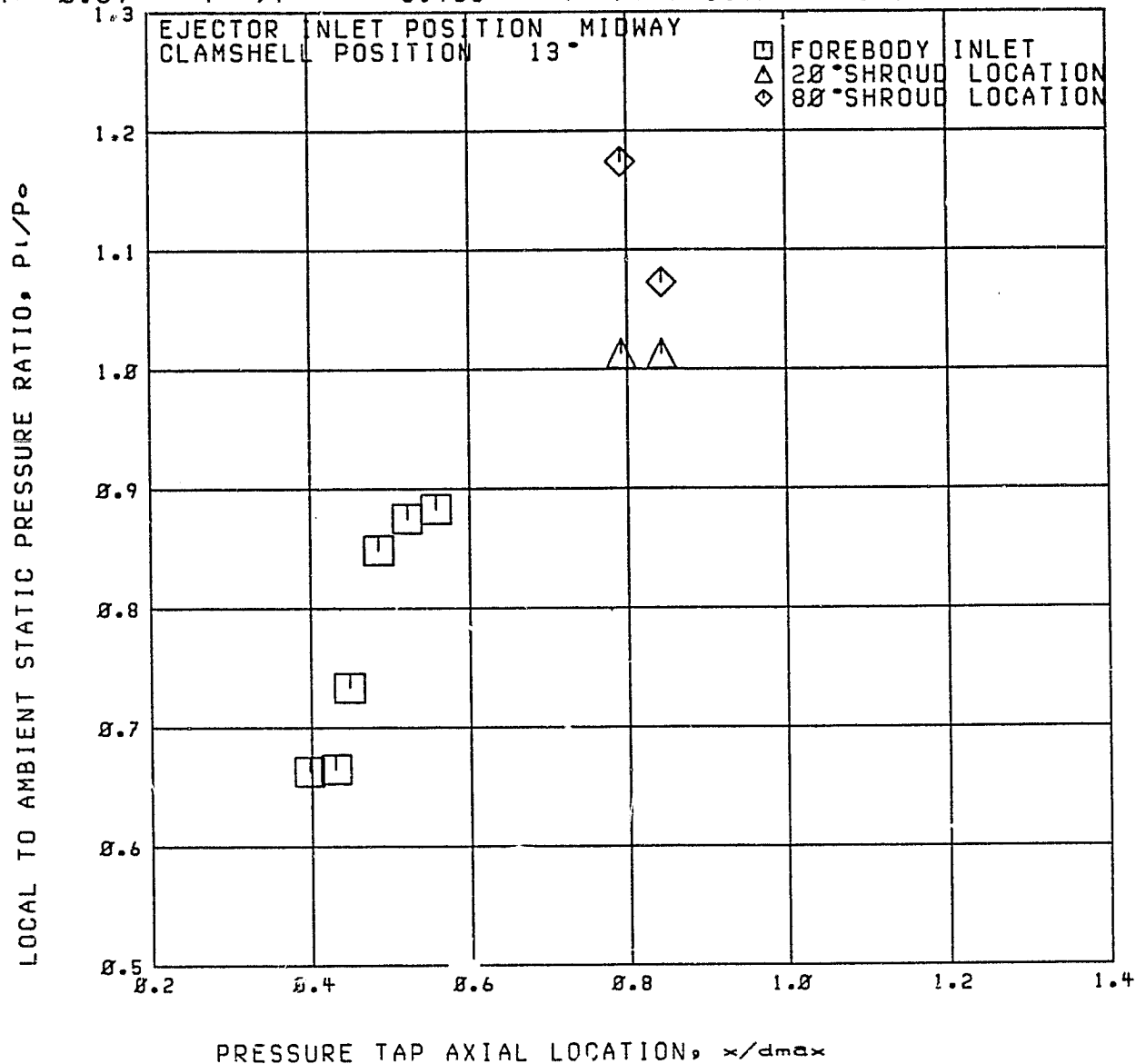
Run 29

RDG=1700

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.89$   $P_{tr}/P_0 = 6.986$   $P_{tr}/P_{tr} = 1.97$  AT SUBSONIC CRUISE



RD'1718-1751

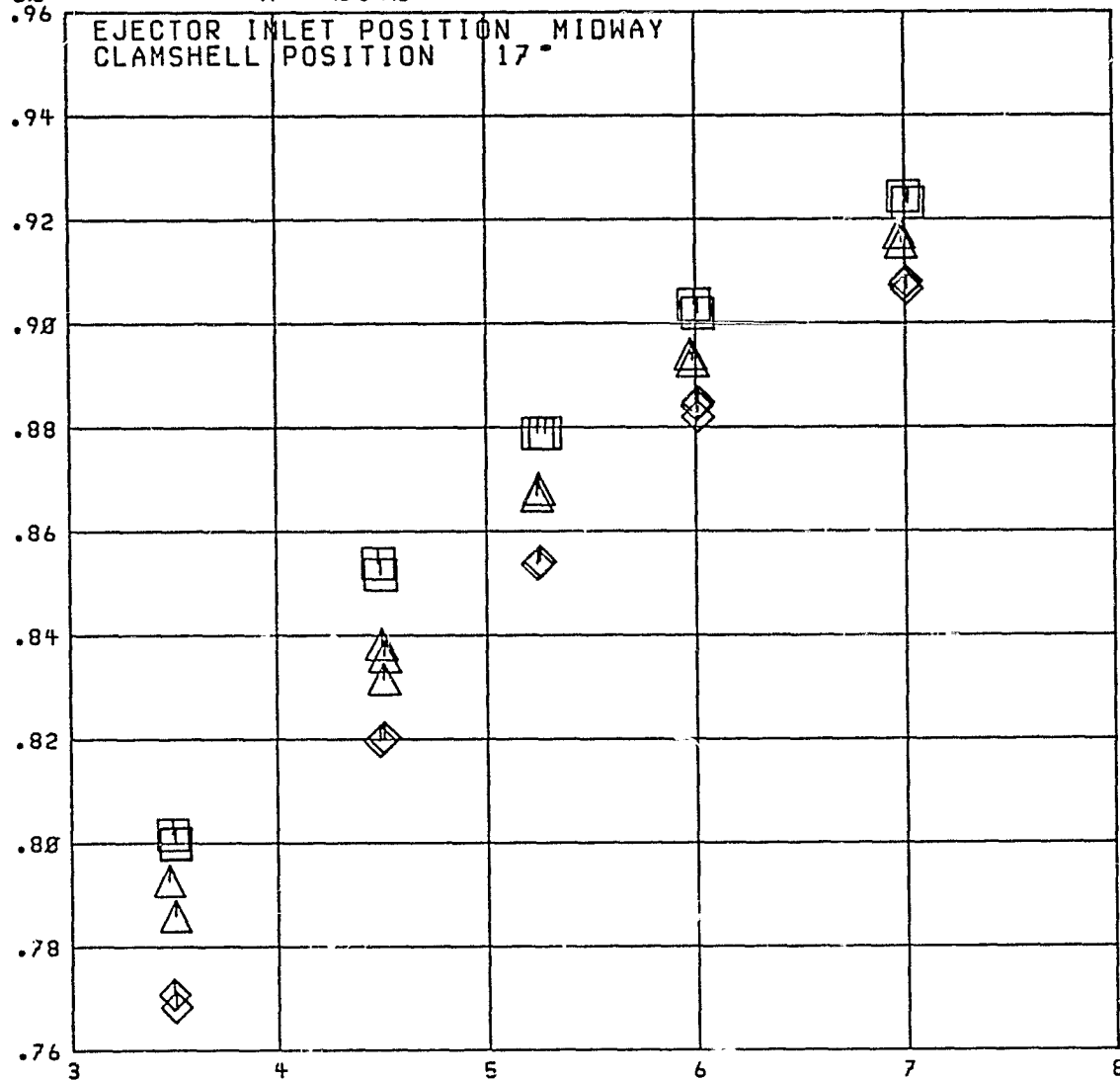
C2  
SUBSONIC CRUISE

RUN 30

$M_0 = 0.90$

$P_{tr}/P_{tp} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$

NOZZLE GROSS THRUST COEFFICIENT, CFP1



FAN NOZZLE PRESSURE RATIO,  $P_{TF}/P_O$

RDG. 1718-1751

C2

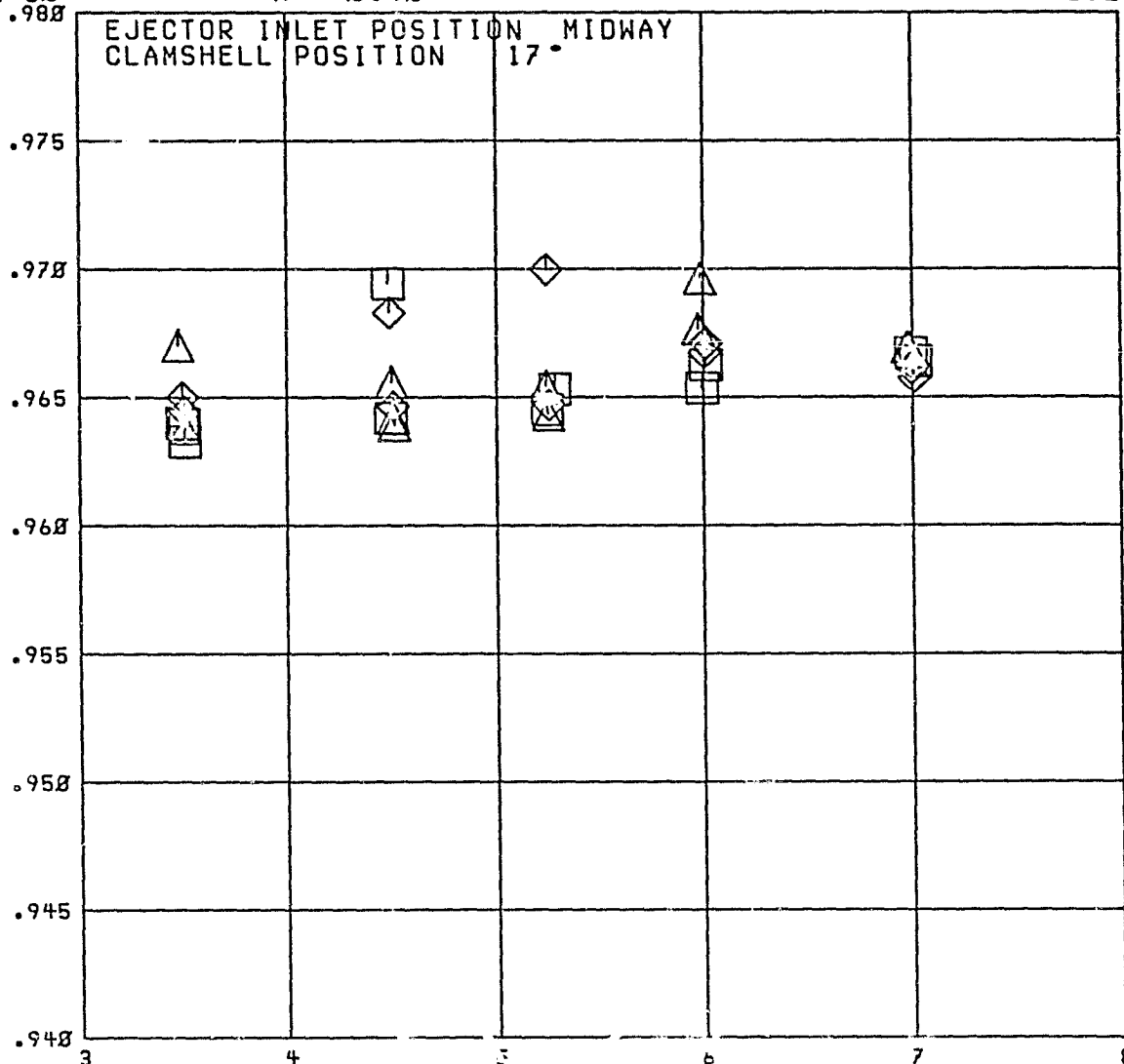
SUBSONIC CRUISE

RUN 30

$M_\infty = 0.90$

$P_{tF}/P_{tP} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$

FAN-NOZZLE FLOW COEFFICIENT, CDF



FAN NOZZLE PRESSURE RATIO,  $P_{tF}/P_{tP}$

RDG. 1718-1751

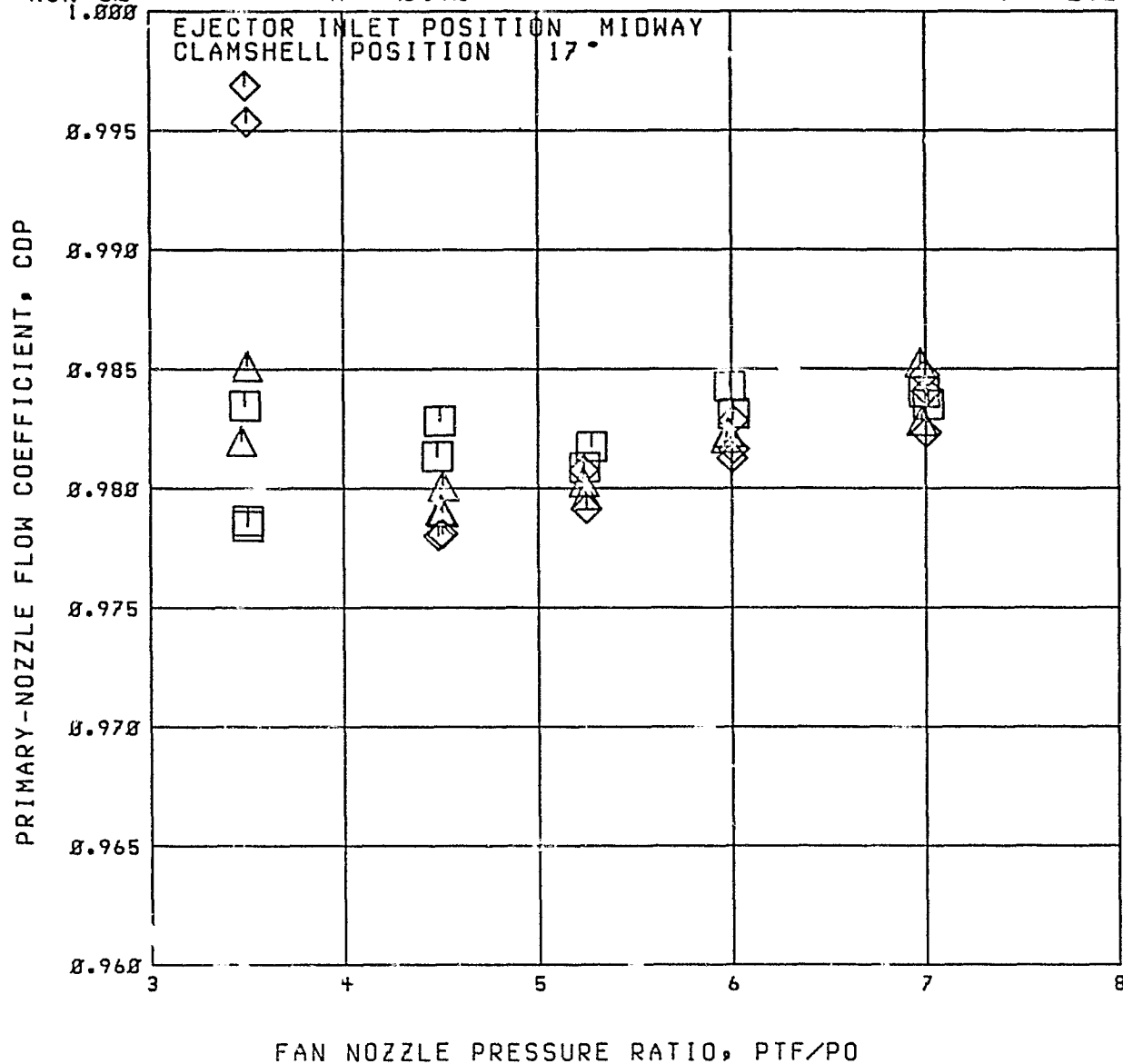
C2

SUBSONIC CRUISE

RUN 30  
1.888

$M_0 = 0.98$

$P_{tr}/P_{tp} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$



RUN 30

C2

RDG=1730

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

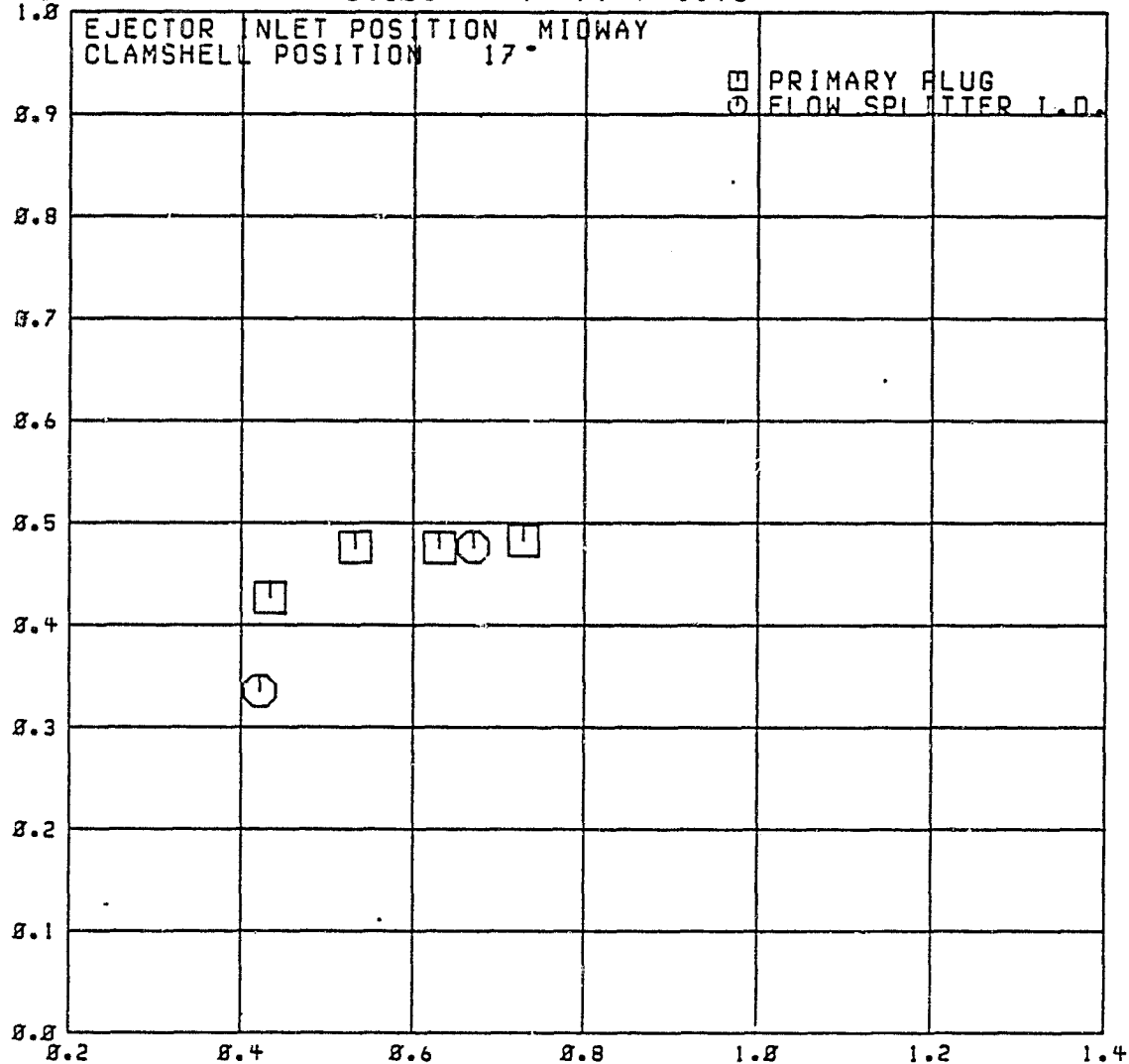
$M_0 = 0.90$

$P_{tr}/P_0 =$

3.508

$P_{tr}/P_{tp} = 1.96$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$



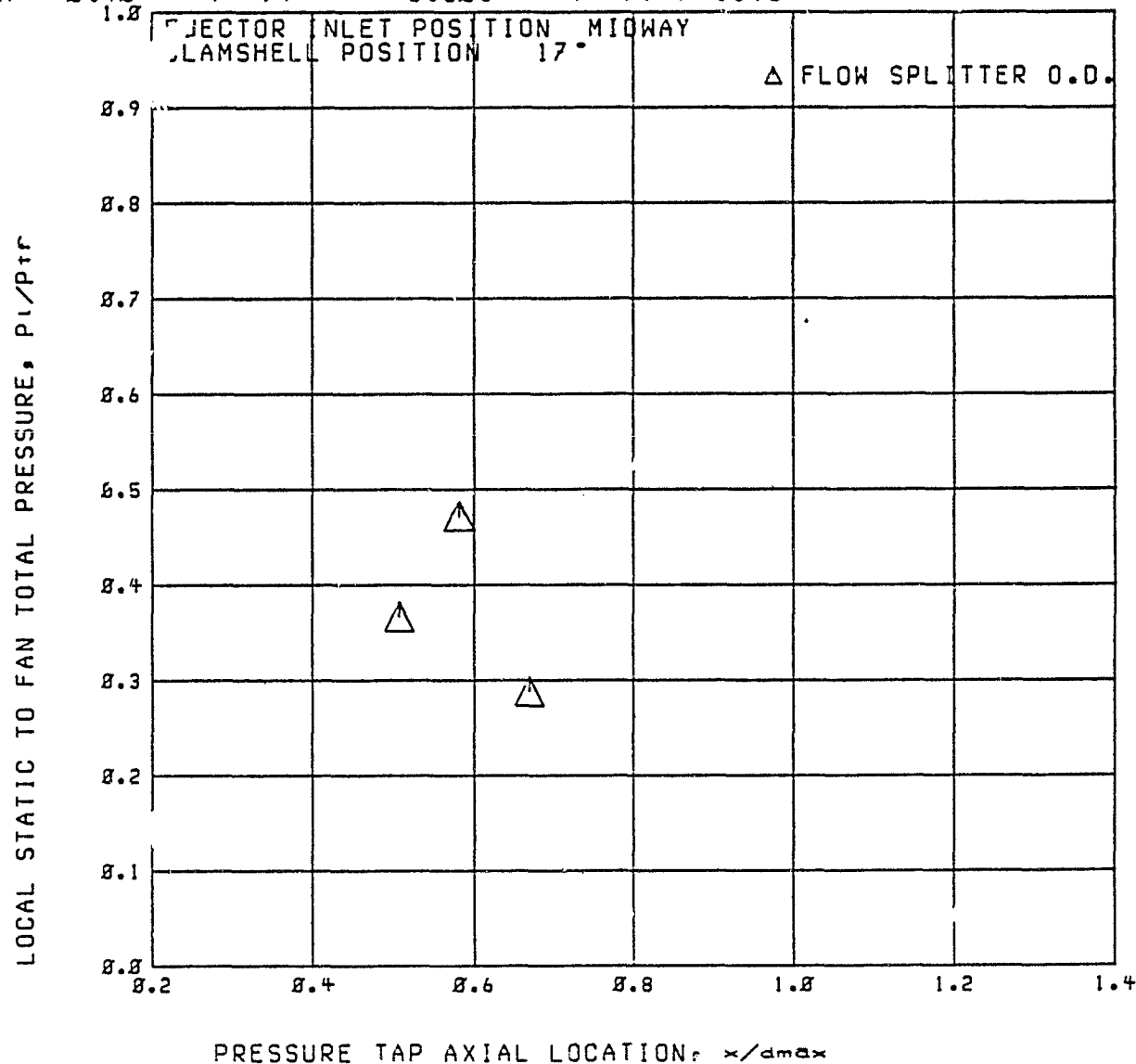
RUN 30

RDG=1738

C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.90$   $P_{tr}/P_0 = 3.508$   $P_{tr}/P_{tp} = 1.96$



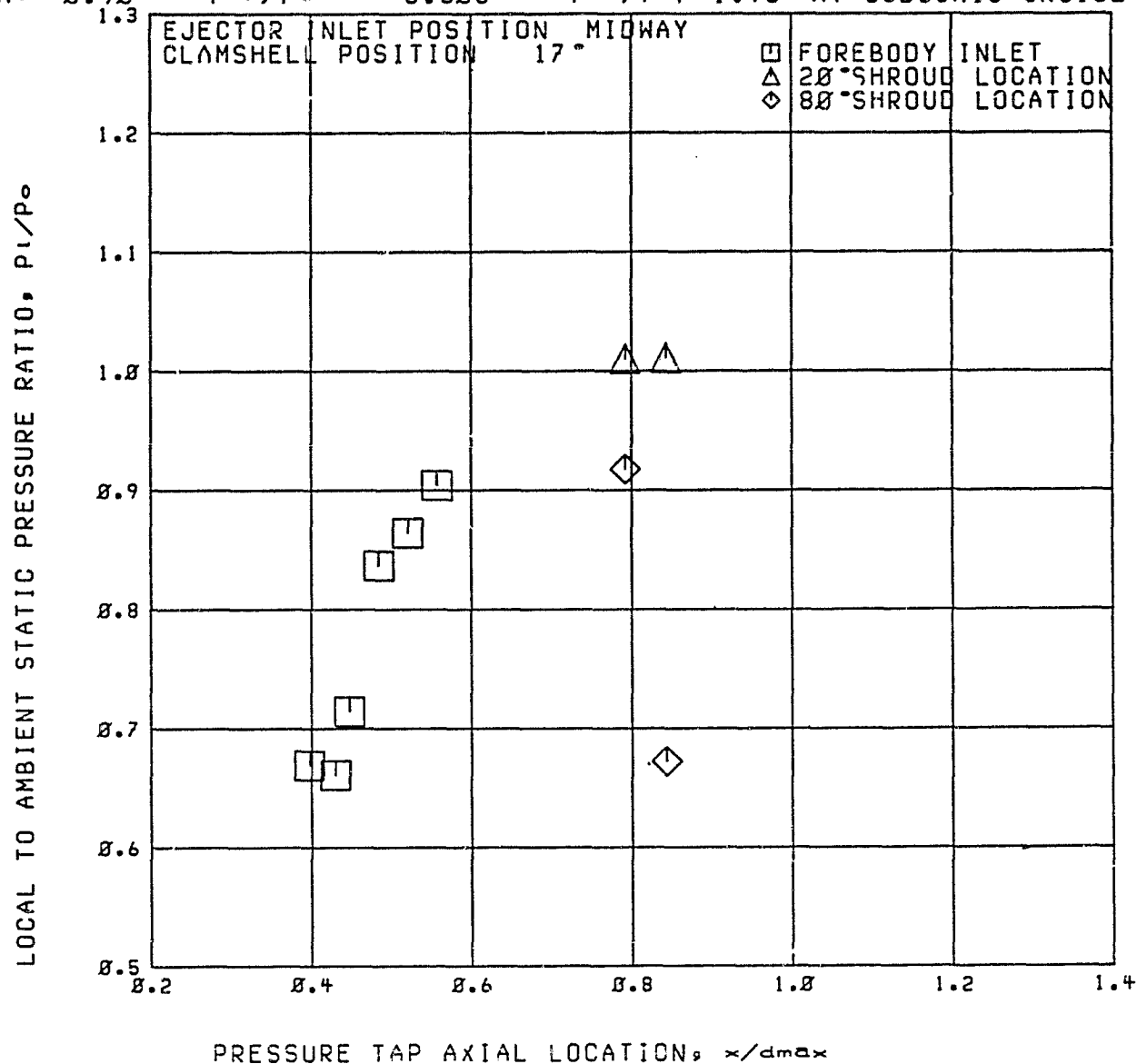
RUN 30

C2

RDG=1730

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.90$   $P_{tr}/P_o = 3.508$   $P_{tr}/P_{tp} = 1.96$  AT SUBSONIC CRUISE



Run 30

C2

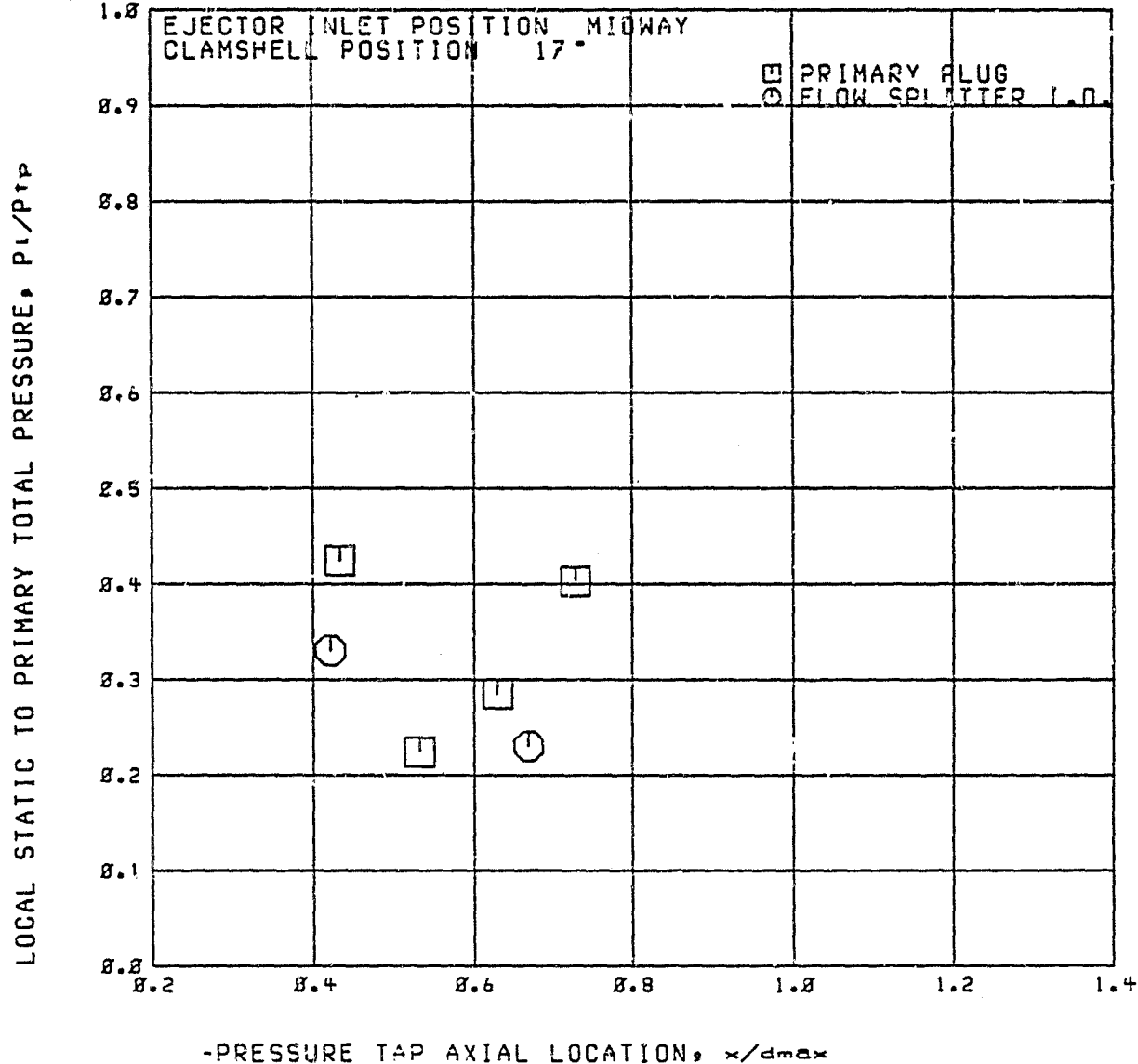
RDG=1731

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.90$

$P_{tr}/P_0 = 4.507$

$P_{tr}/P_{tp} = 1.98$



Run 30

RDG=1731

C2

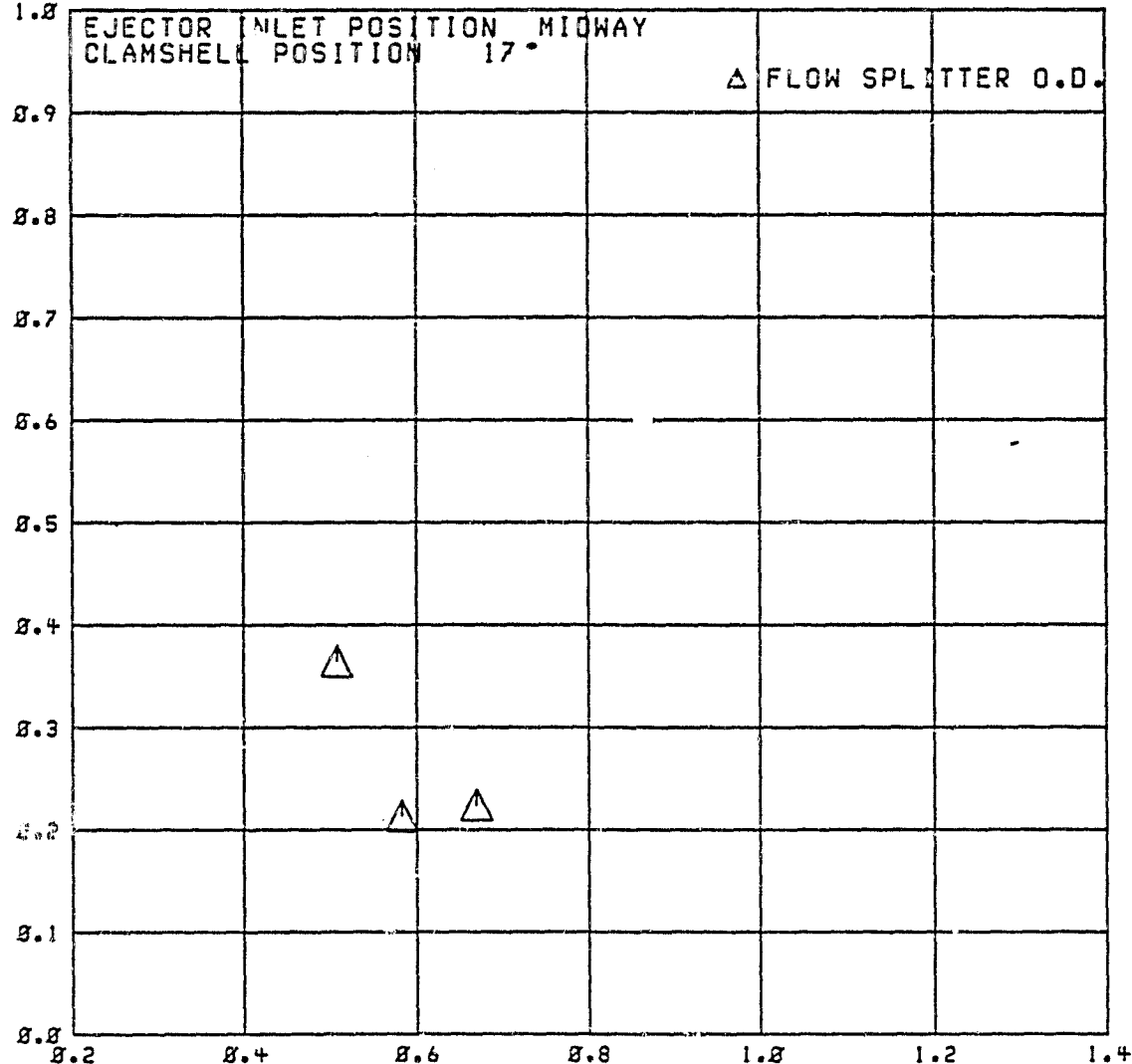
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$   
1.8

$P_{tr}/P_0 = 4.507$

$P_{tr}/P_{tp} = 1.98$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

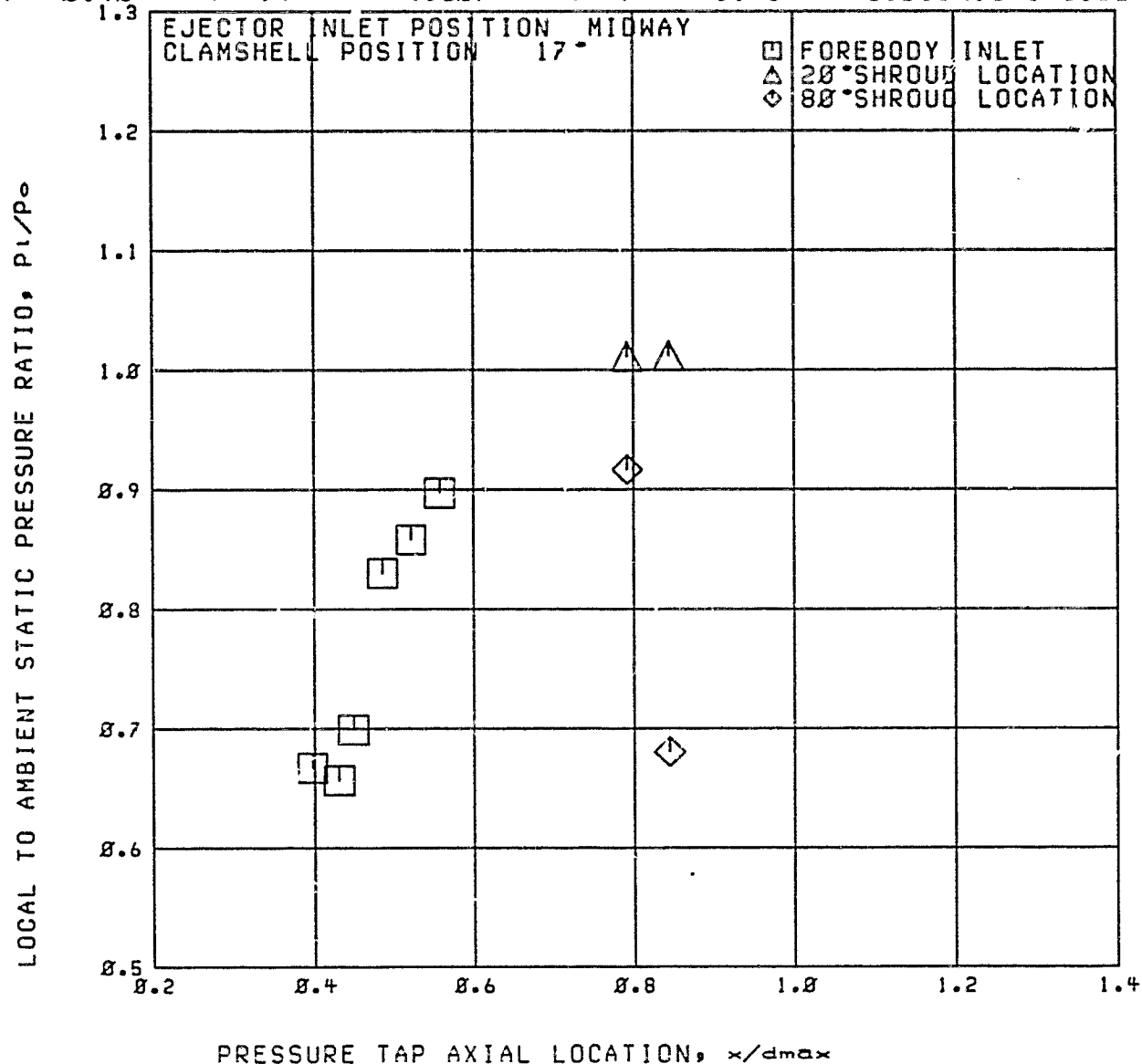
RUN 30

C2

RDG=1731

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.90$   $P_{tr}/P_o = 4.507$   $P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE



RUN 30

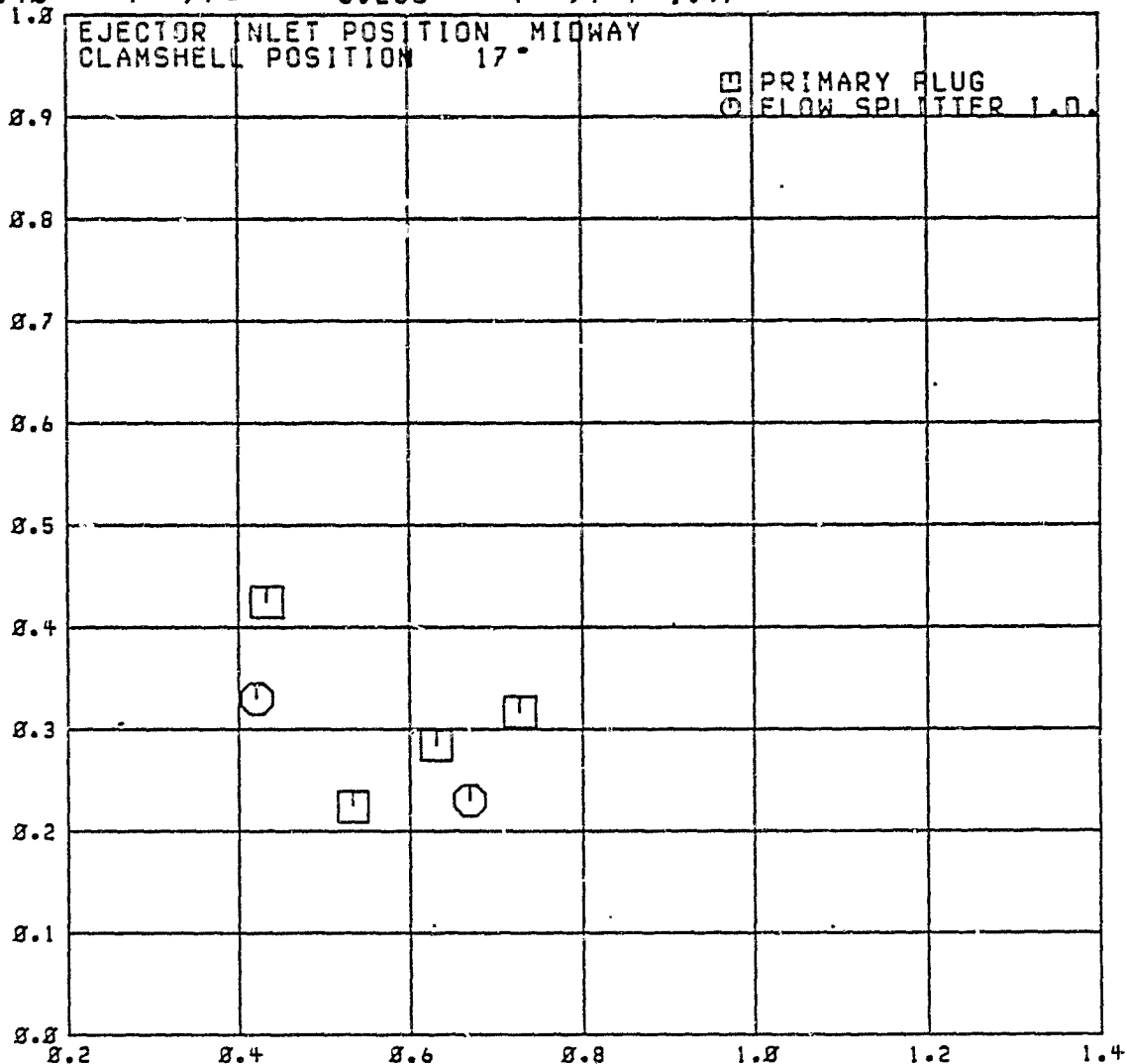
C2

RDG=1732

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$   $P_{t0}/P_0 = 5.238$   $P_{t0}/P_{tp} = 1.97$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_t/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

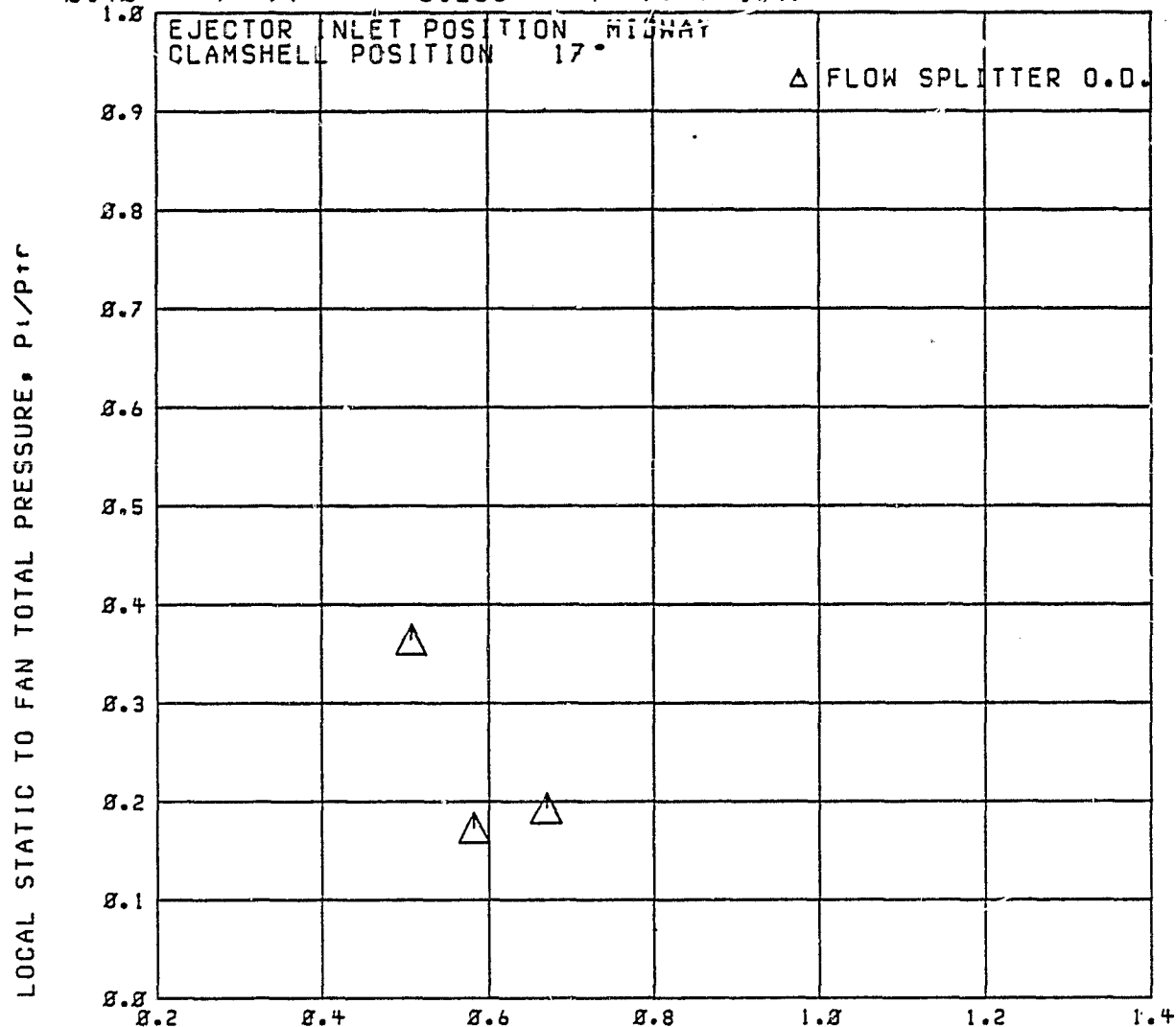
RUN 30

C2

RDG=1732

IG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$P_{tr}/P_o = 5.238$   $P_{tr}/P_{tp} = 1.97$



C-2

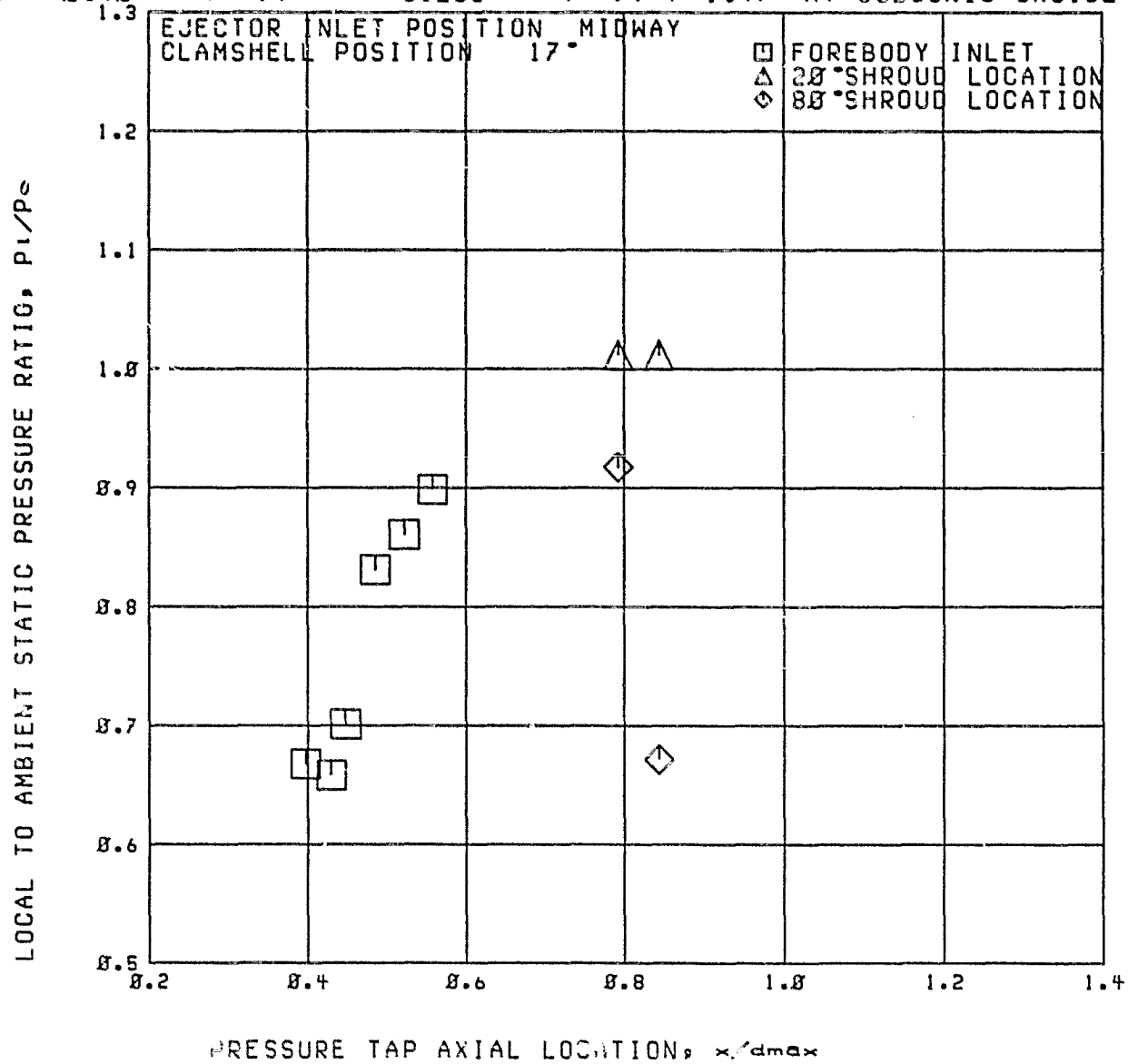
RUN 30

C2

RDG=1732

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.98$   $P_{tr}/P_o = 5.238$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE





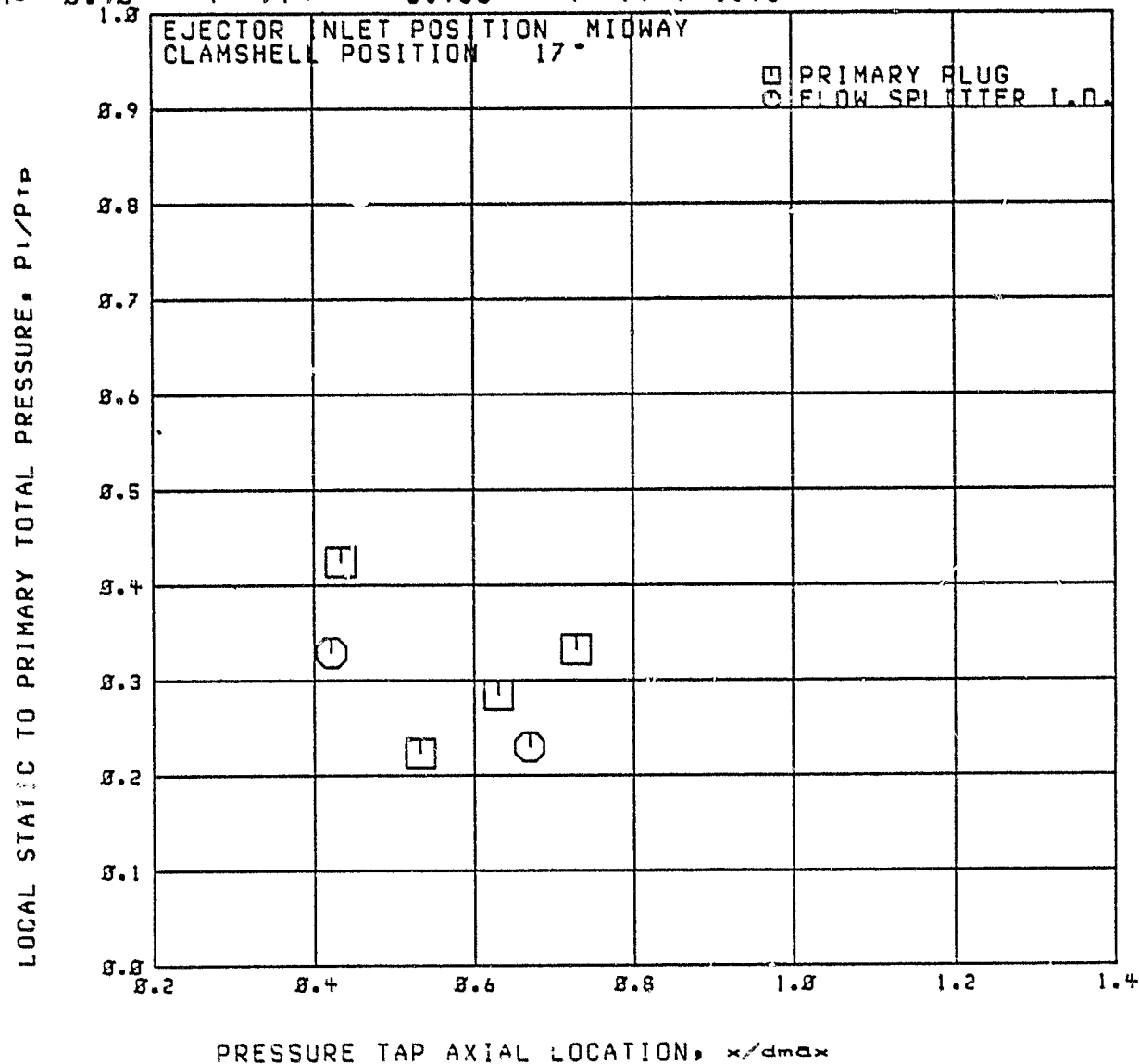
RUN 30

C2

RDG=1733

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$   $P_{t0}/P_0 = 5.985$   $P_{t0}/P_{tp} = 1.95$



RUN 30

C2

RDG=1733

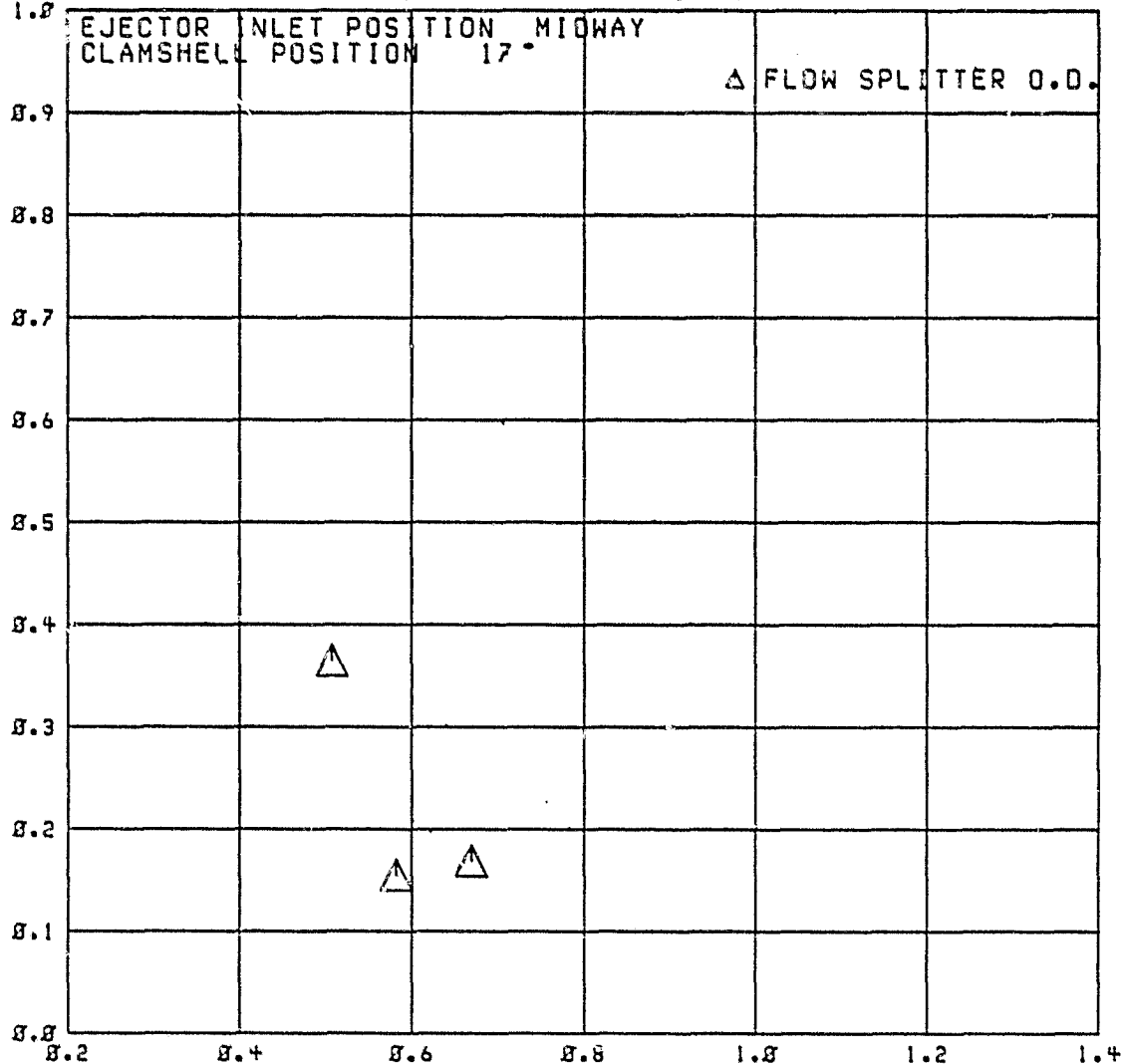
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.98$

$P_{tr}/P_o = 5.985$

$P_{tr}/P_{tp} = 1.95$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

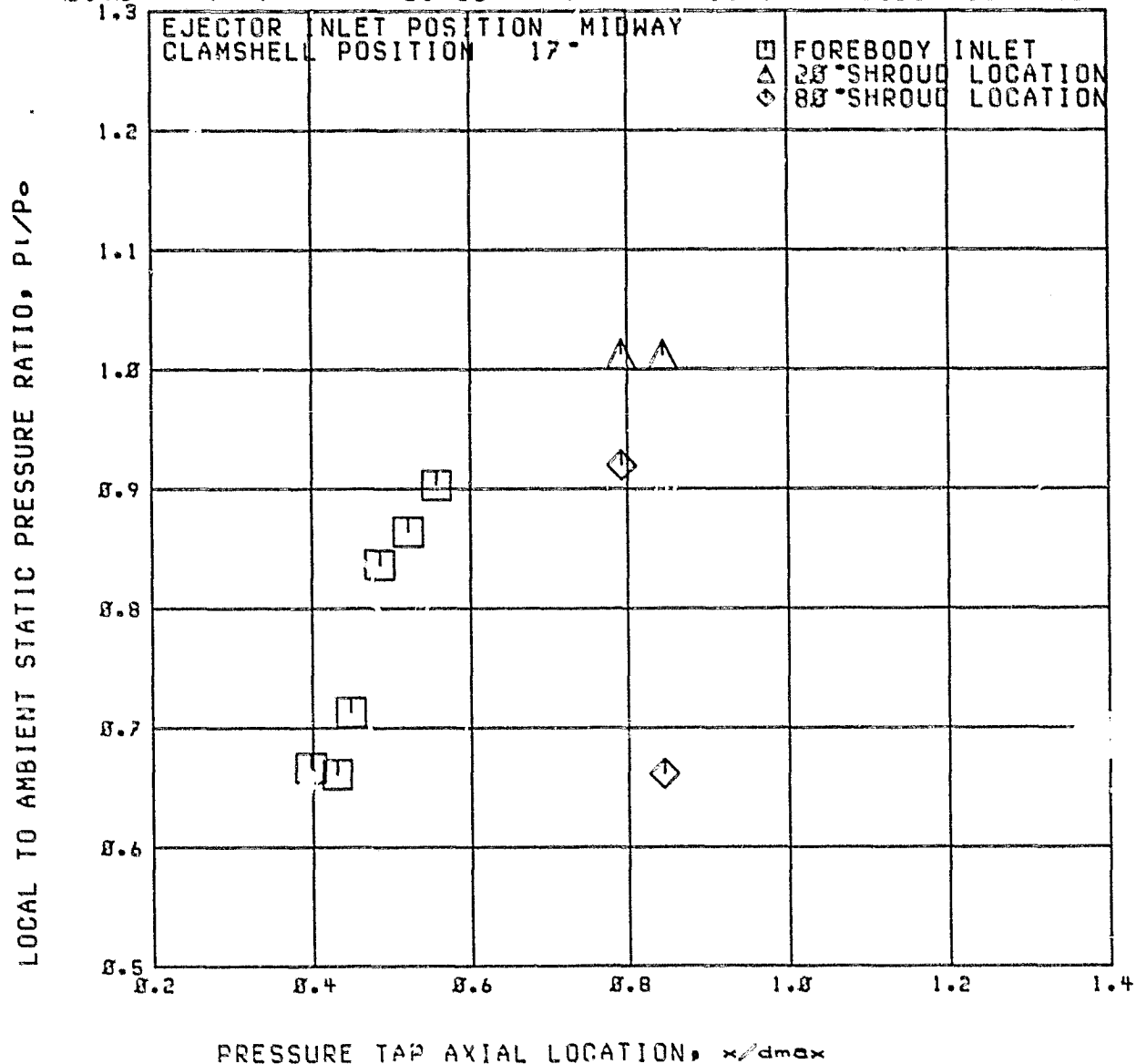
RUN 30

RDG=1733

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.98$   $P_{tr}/P_o = 5.985$   $P_{tr}/P_{tr} = 1.95$  AT SUBSONIC CRUISE



RUN 30

C2

RDG=1734

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

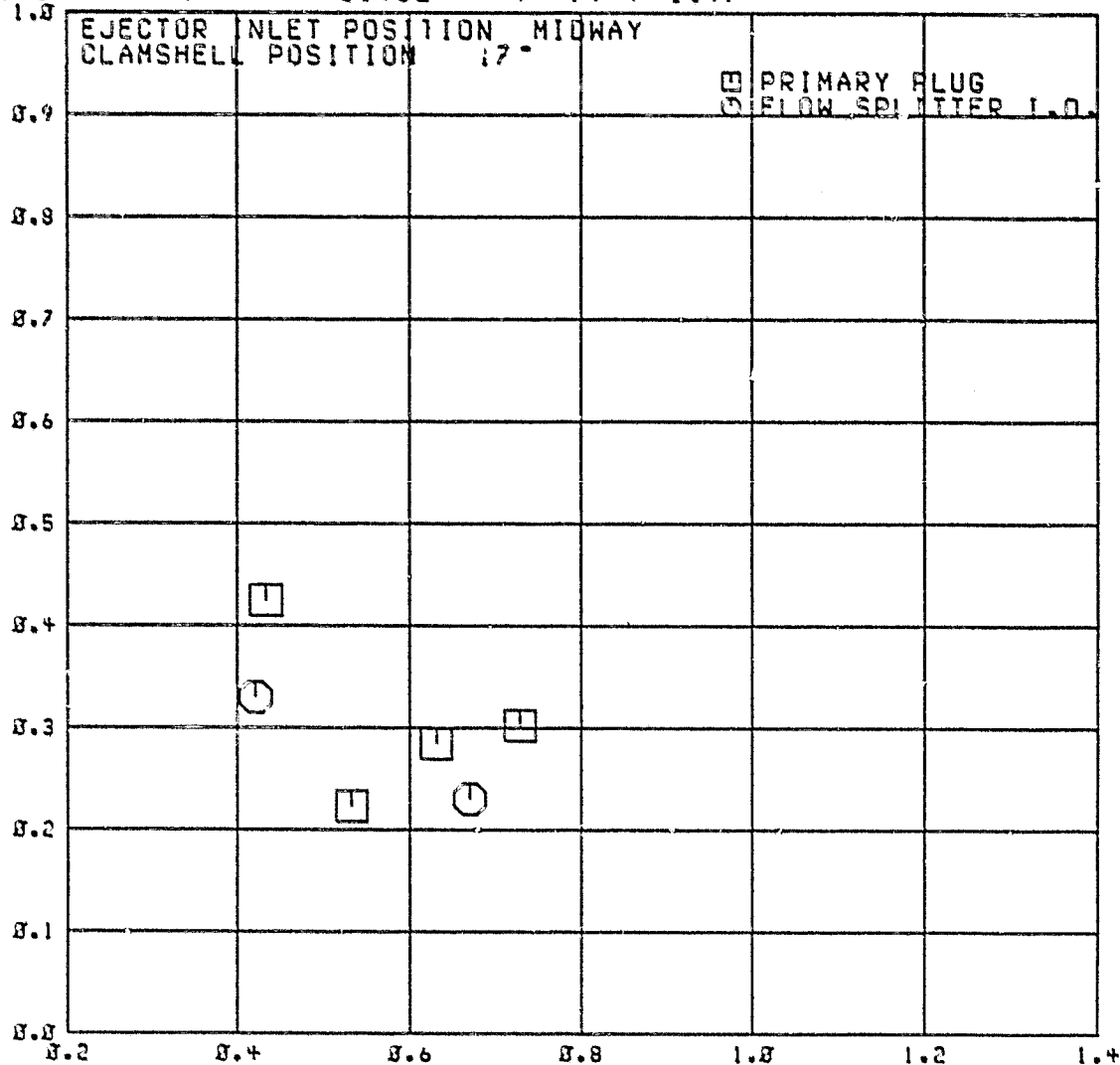
Mo = 0.98

$P_{TC}/P_o =$

6.982

$P_{TC}/P_{TP} = 1.97$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{TP}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

Run 30

C2

RDG=1734

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

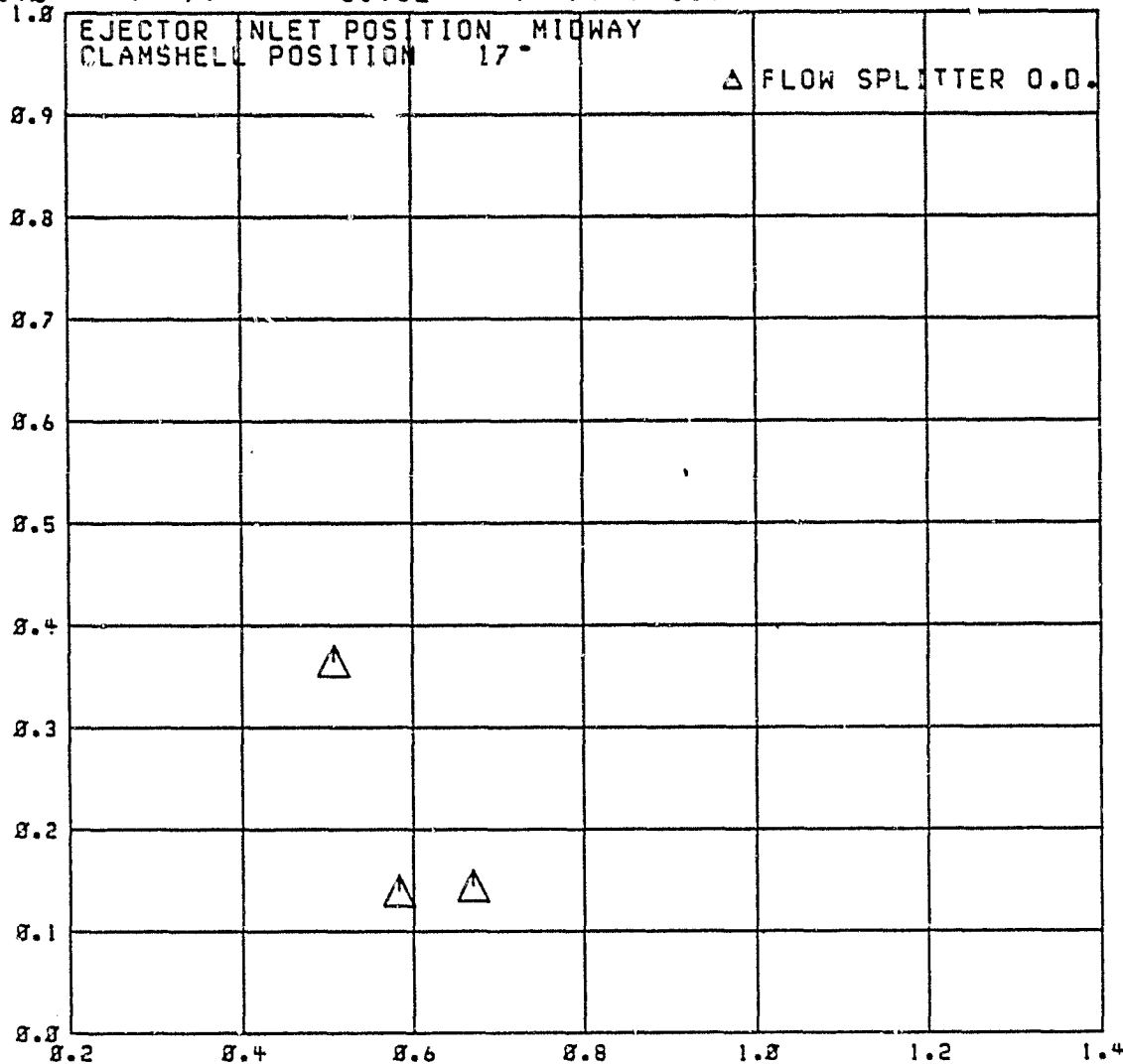
$M_0 = 0.98$

$P_{tr}/P_0 =$

6.982

$P_{tr}/P_{tp} = 1.97$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

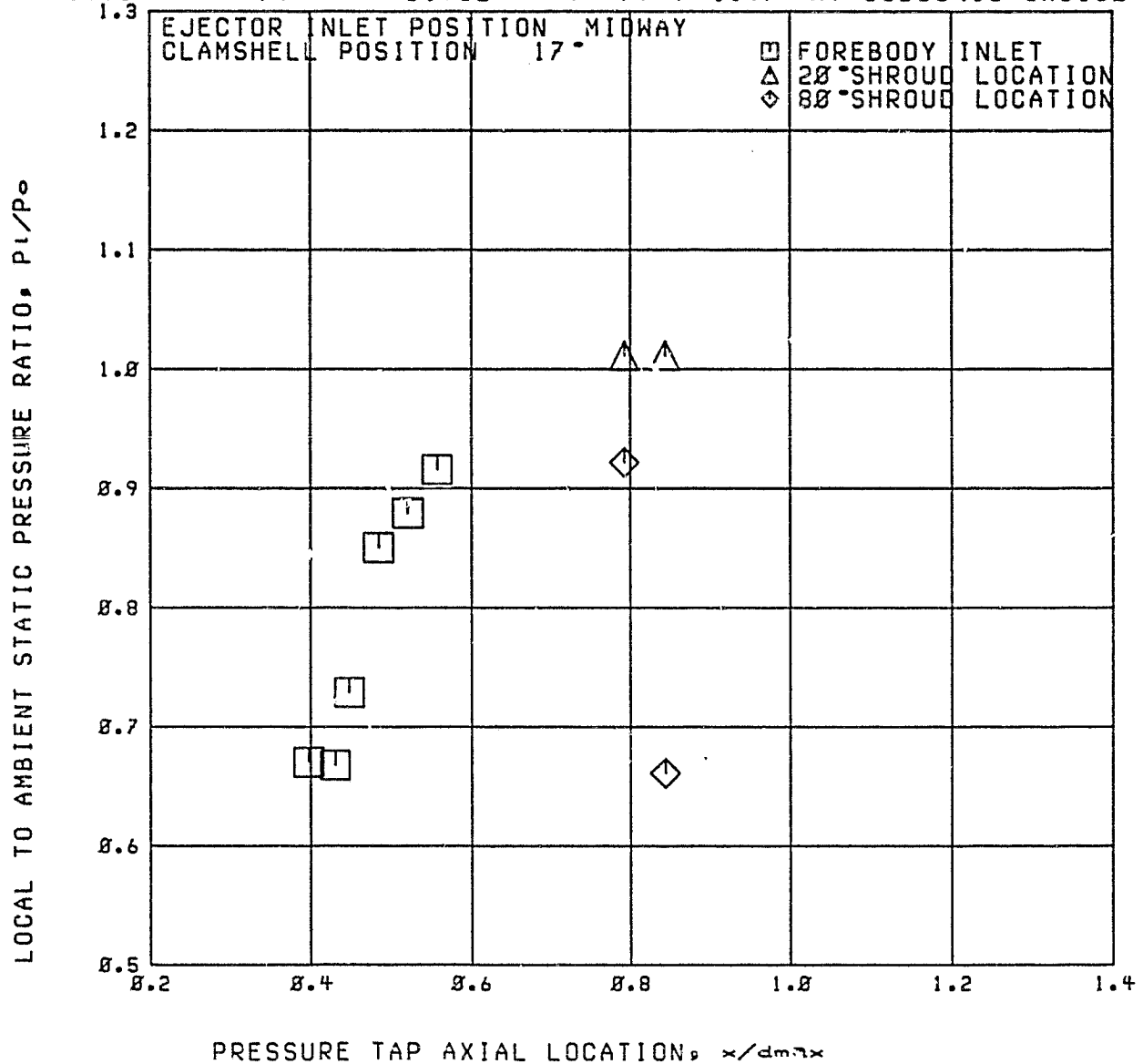
RUN 30

C2

RDG=1734

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.90$   $P_{tr}/P_0 = 6.982$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



ROG. 1752-1785

C2

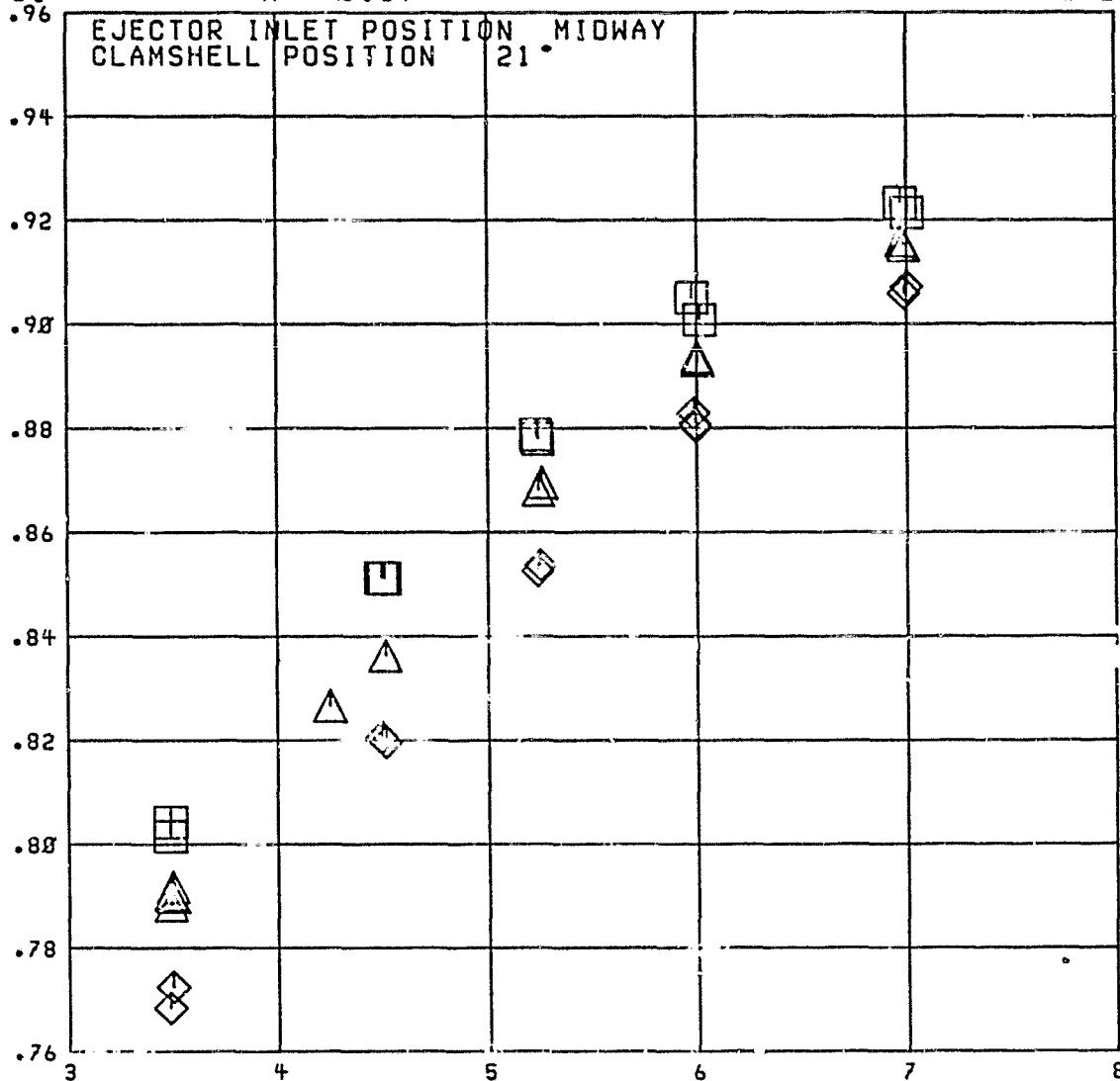
SUBSONIC CRUISE

RUN 31

$M_\infty = 0.89$

$P_{tC}/P_{tP} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$

NOZZLE GROSS THRUST COEFFICIENT,  $C_{FP1}$



FAN NOZZLE PRESSURE RATIO,  $P_{tF}/P_0$

RDG. 1752-1785

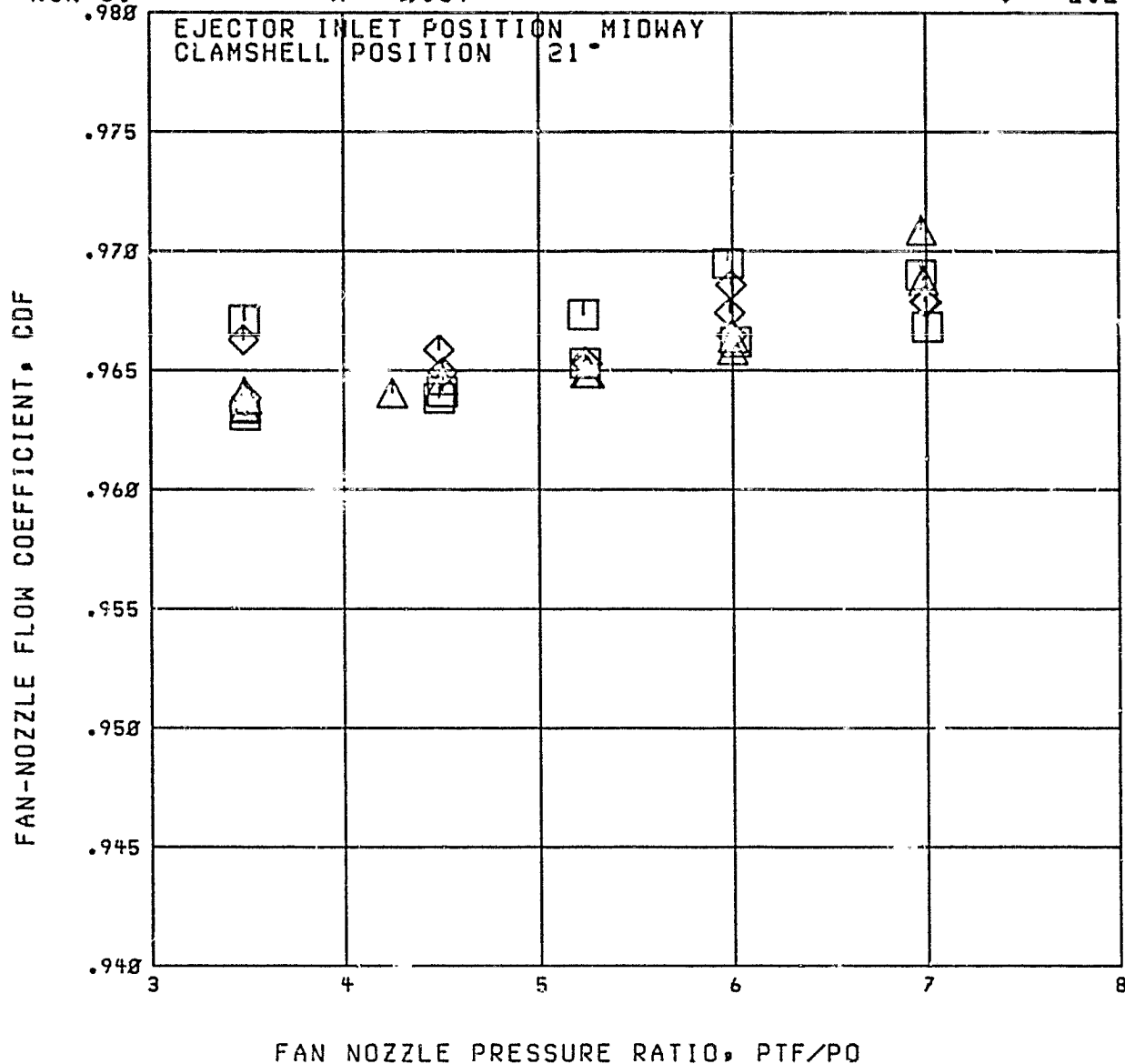
C2

SUBSONIC CRUISE

RUN 31

$M_\infty = 0.89$

$P_{tC}/P_{tP} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$





RDG. 1752-1785

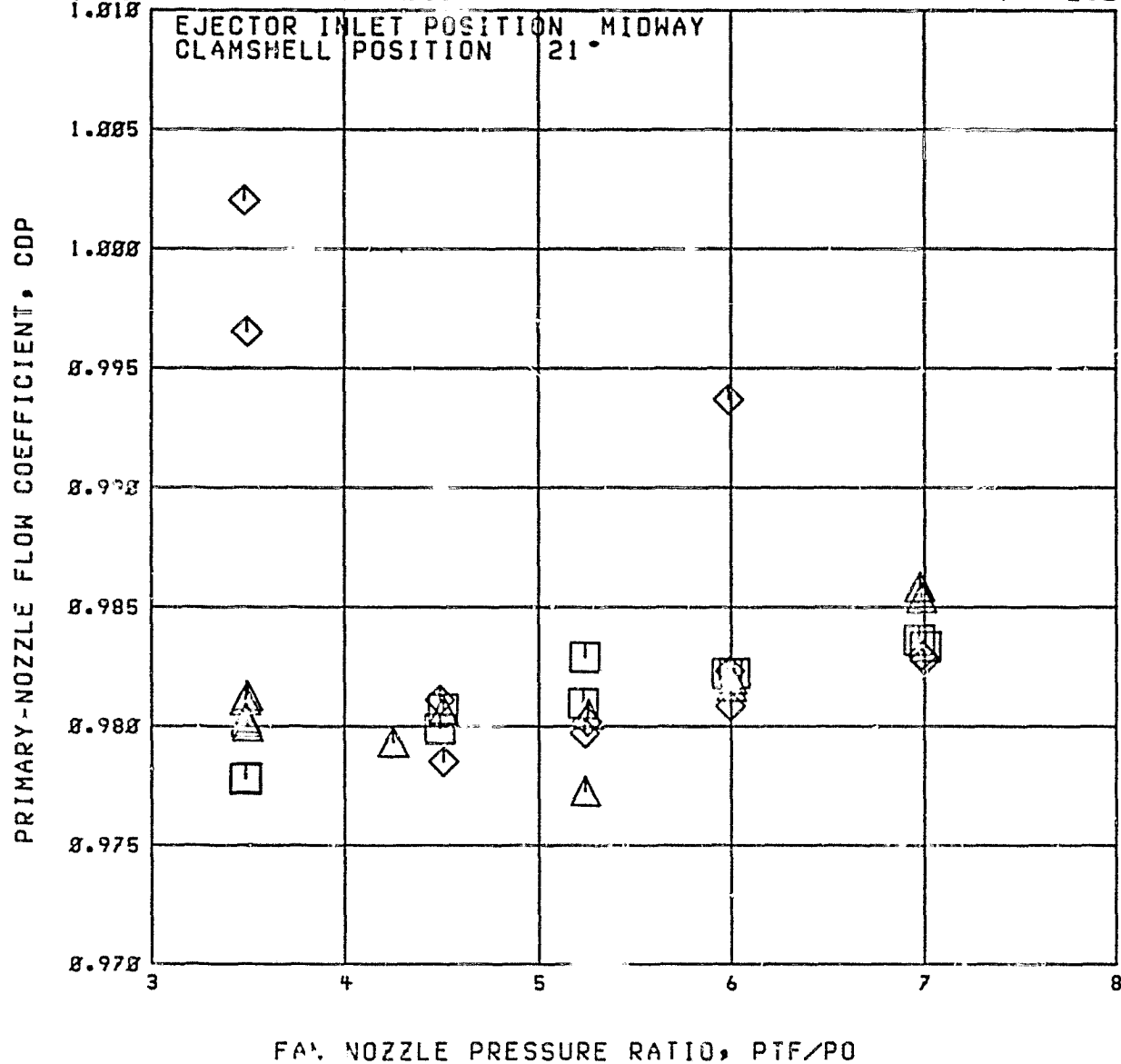
C2

SUBSONIC CRUISE

RUN 31  
1.818

$M_\infty = 0.89$

$P_{tr}/P_{tp} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$



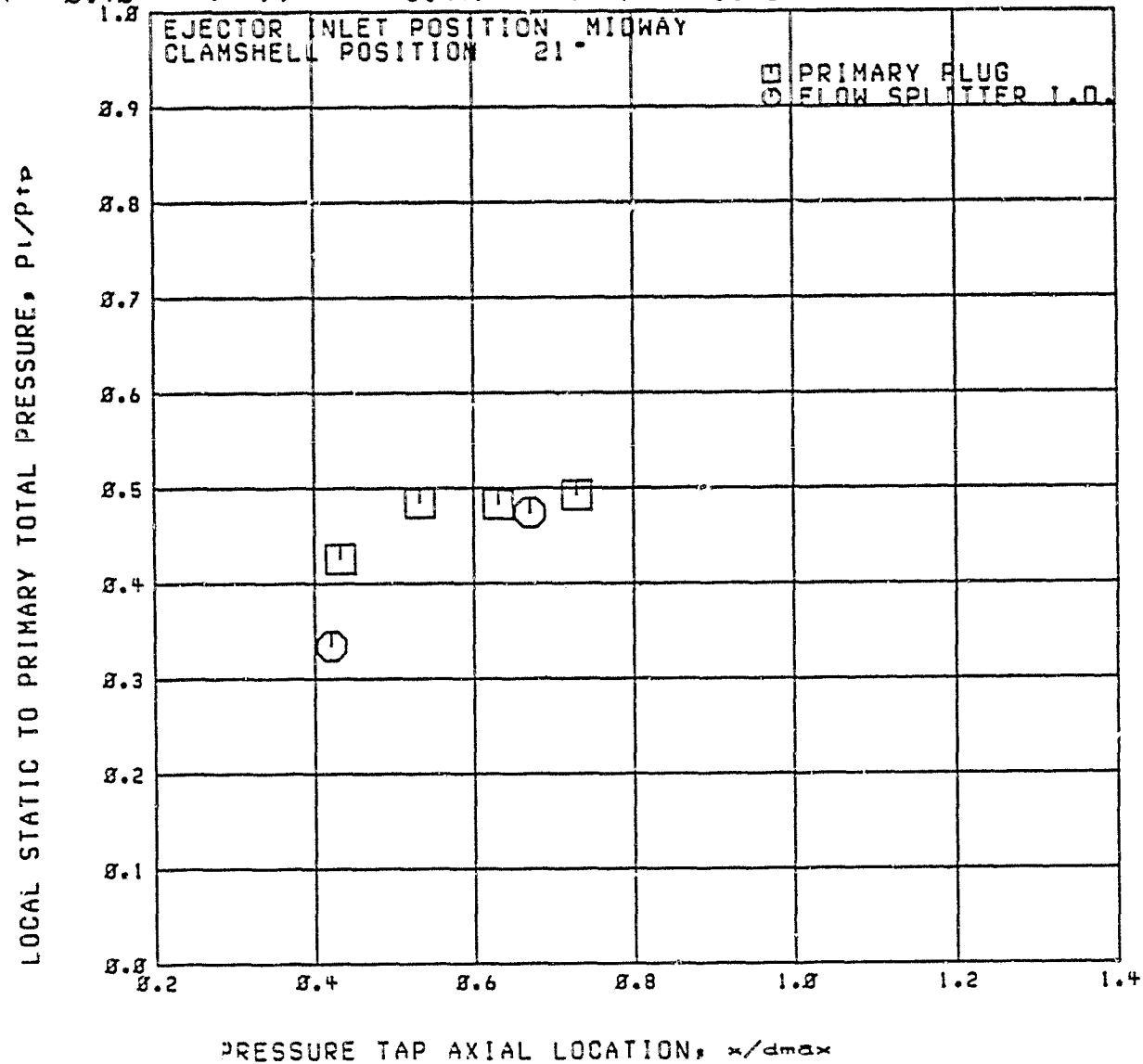
RUN 31

RDG=1763

C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.90$   $P_{t0}/P_0 = 3.497$   $P_{t0}/P_{tP} = 1.95$



ROW 31

RDG=1763

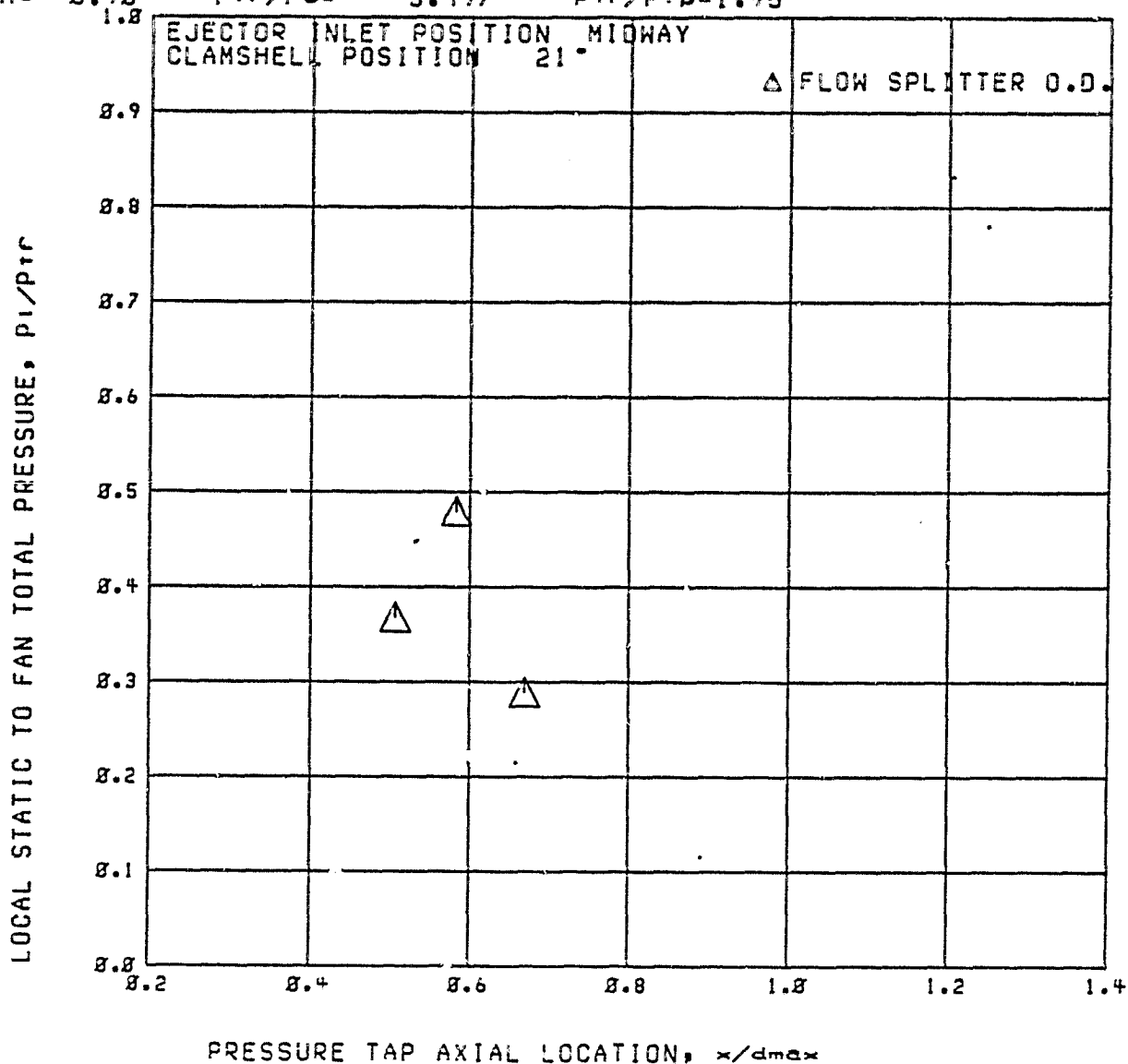
C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$

$P_{tr}/P_{02} = 3.497$

$P_{tr}/P_{tp} = 1.95$



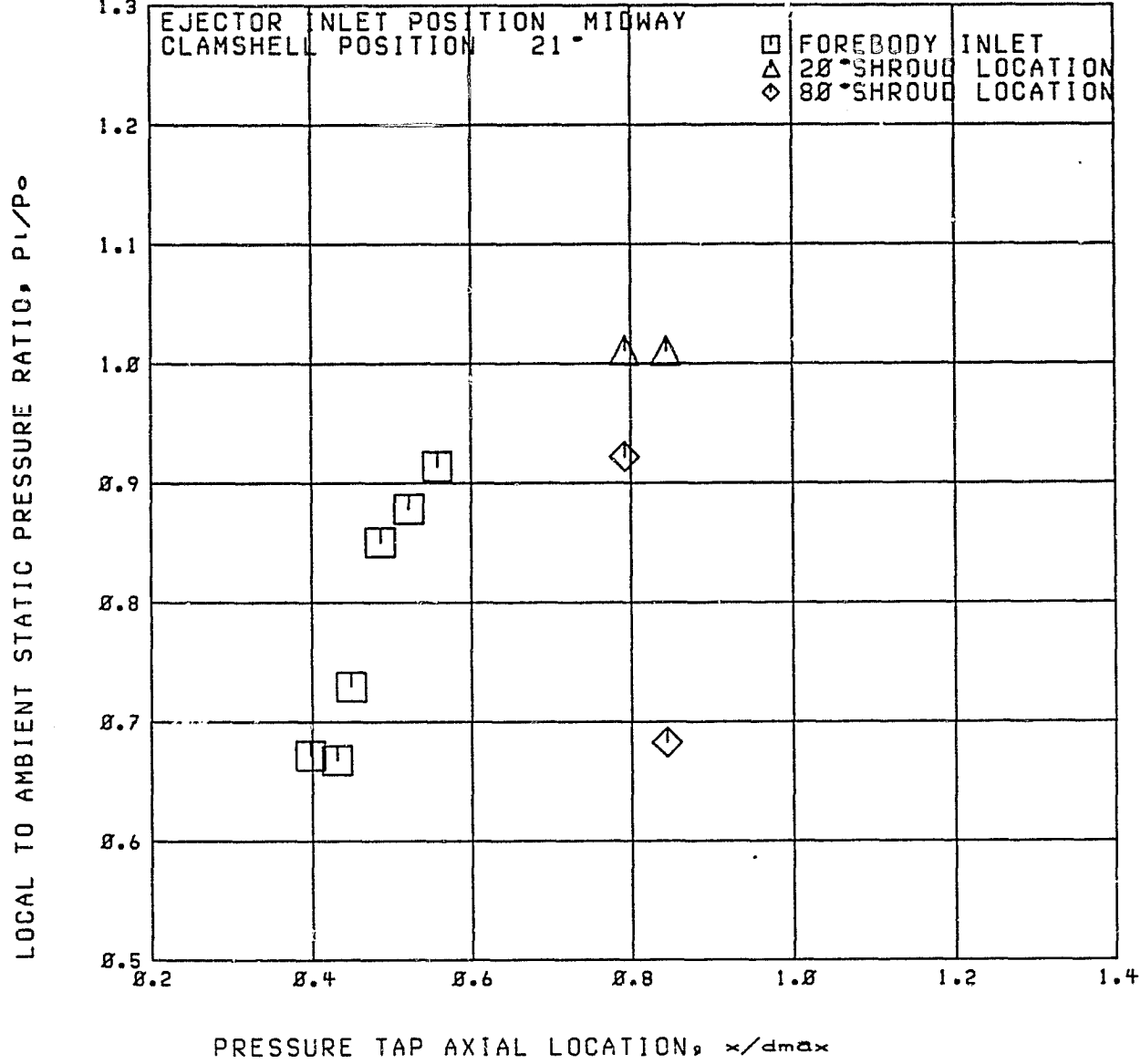
Run 31

C2

RDG=1763

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.90$      $P_{tr}/P_o = 3.497$      $P_{tr}/P_{tp} = 1.95$     AT SUBSONIC CRUISE



Run 31

C2

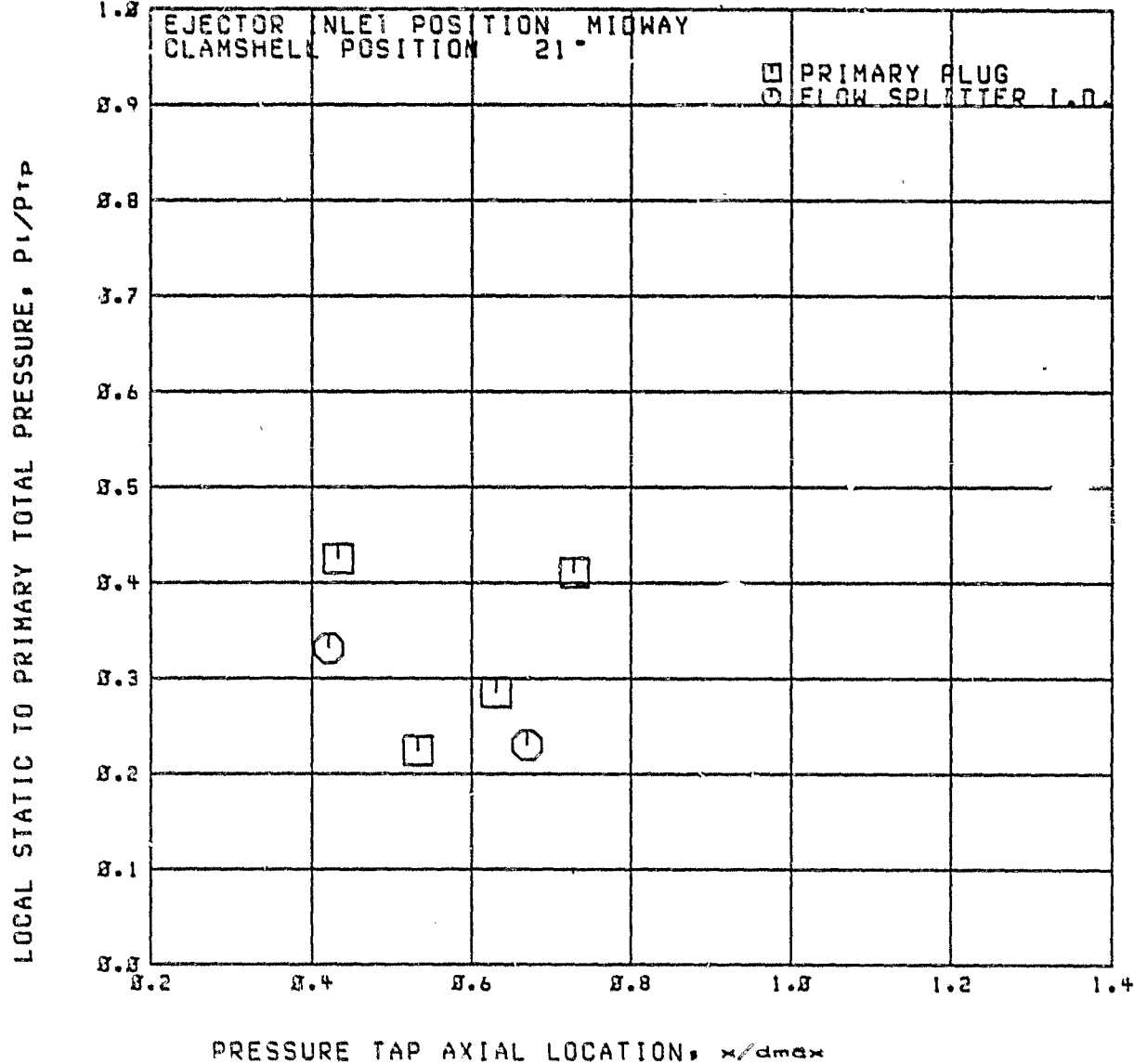
RDG=1764

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_{02} = 4.518$

$P_{tr}/P_{tp} = 1.99$



RUN 31

RDG=1764

C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

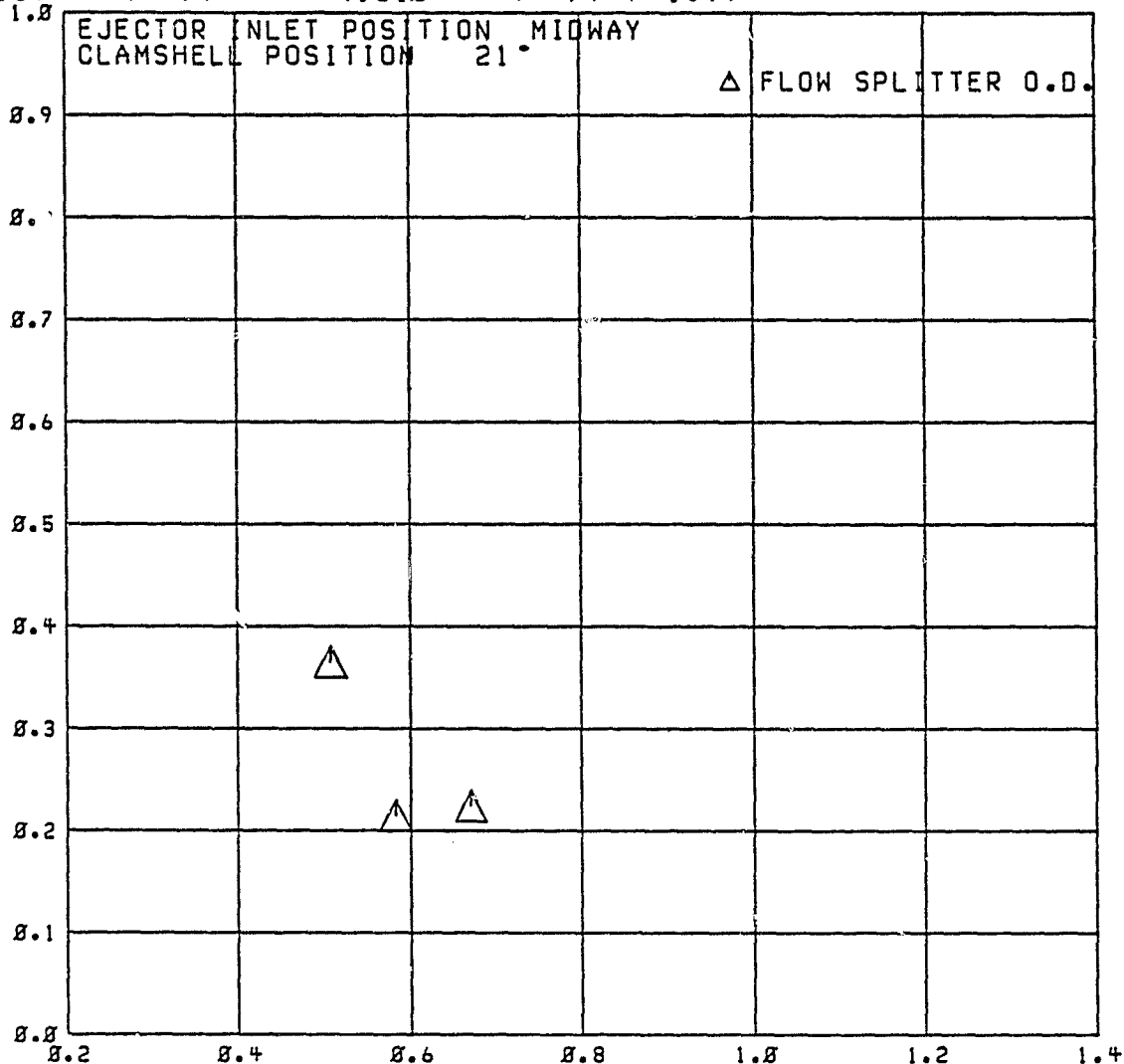
$M_0 = 0.89$

$P_{tr}/P_0 =$

4.518

$P_{tr}/P_{tp} = 1.99$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

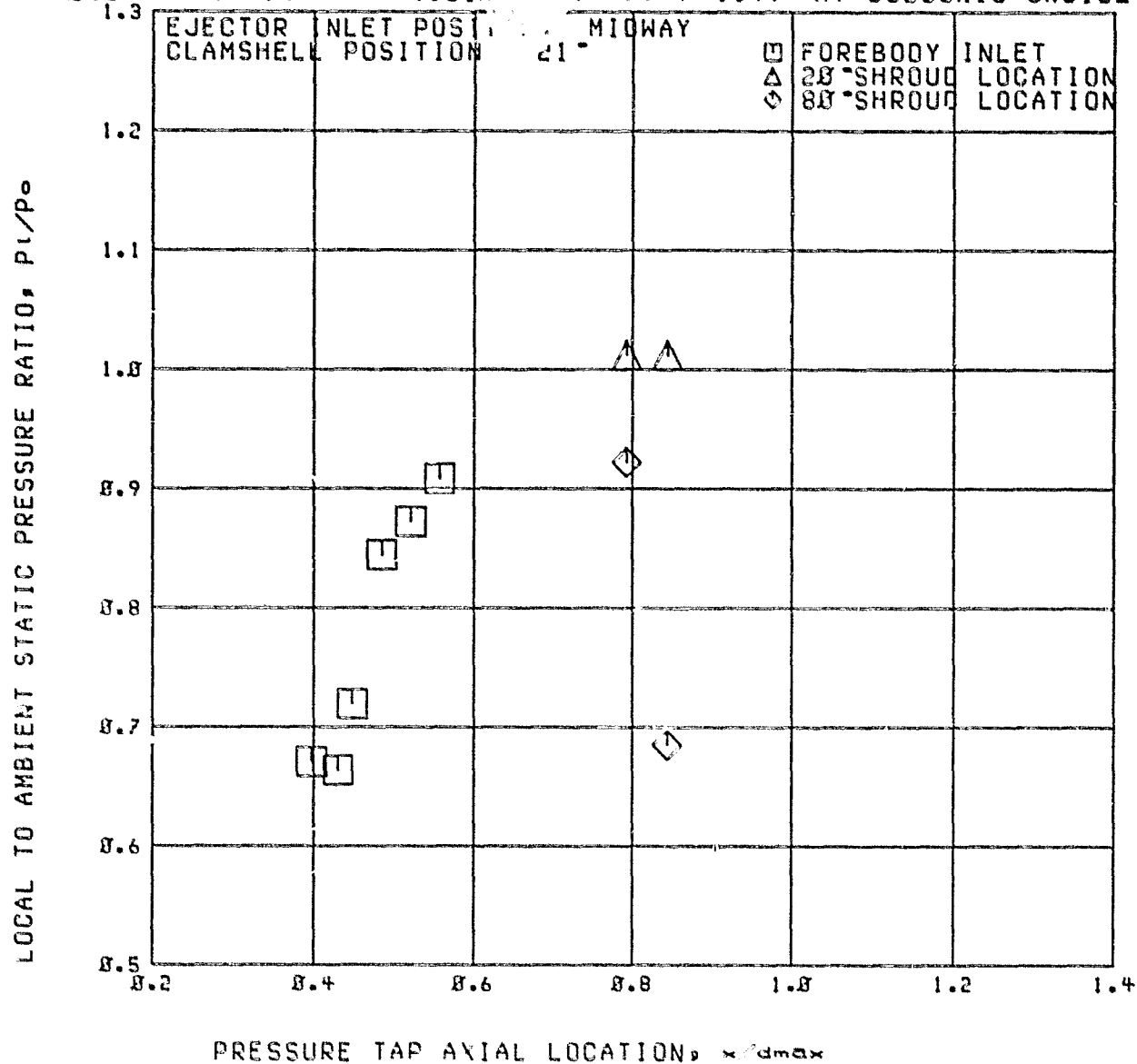
Run 31

RDG=1764

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 4.51$   $P_{tr}/P_{tp} = 1.99$  AT SUBSONIC CRUISE



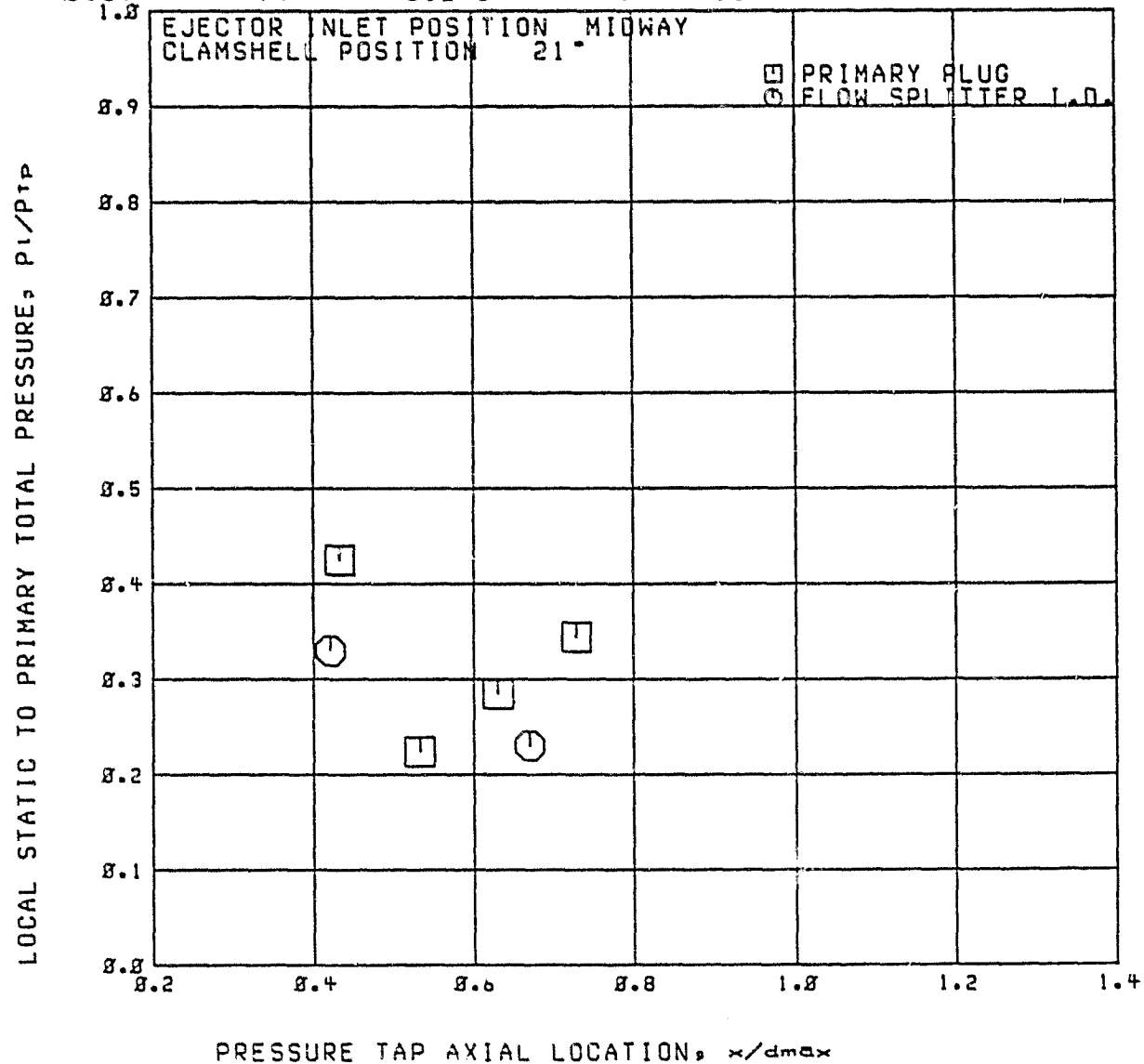
Run 31

C2

RDG=1765

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$   $P_{tr}/P_0 = 5.243$   $P_{tr}/P_{tp} = 1.97$





Rev 31

RDG=1765

C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 = 5.243$

$P_{tr}/P_{tp} = 1.97$

1.0

EJECTOR INLET POSITION MIDWAY  
CLAMSHELL POSITION 21°

△ FLOW SPLITTER O.D.

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$

0.9

0.8

0.7

0.6

0.5

0.4

0.3

0.2

0.1

0.0

0.2

0.4

0.6

0.8

1.0

1.2

1.4

PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

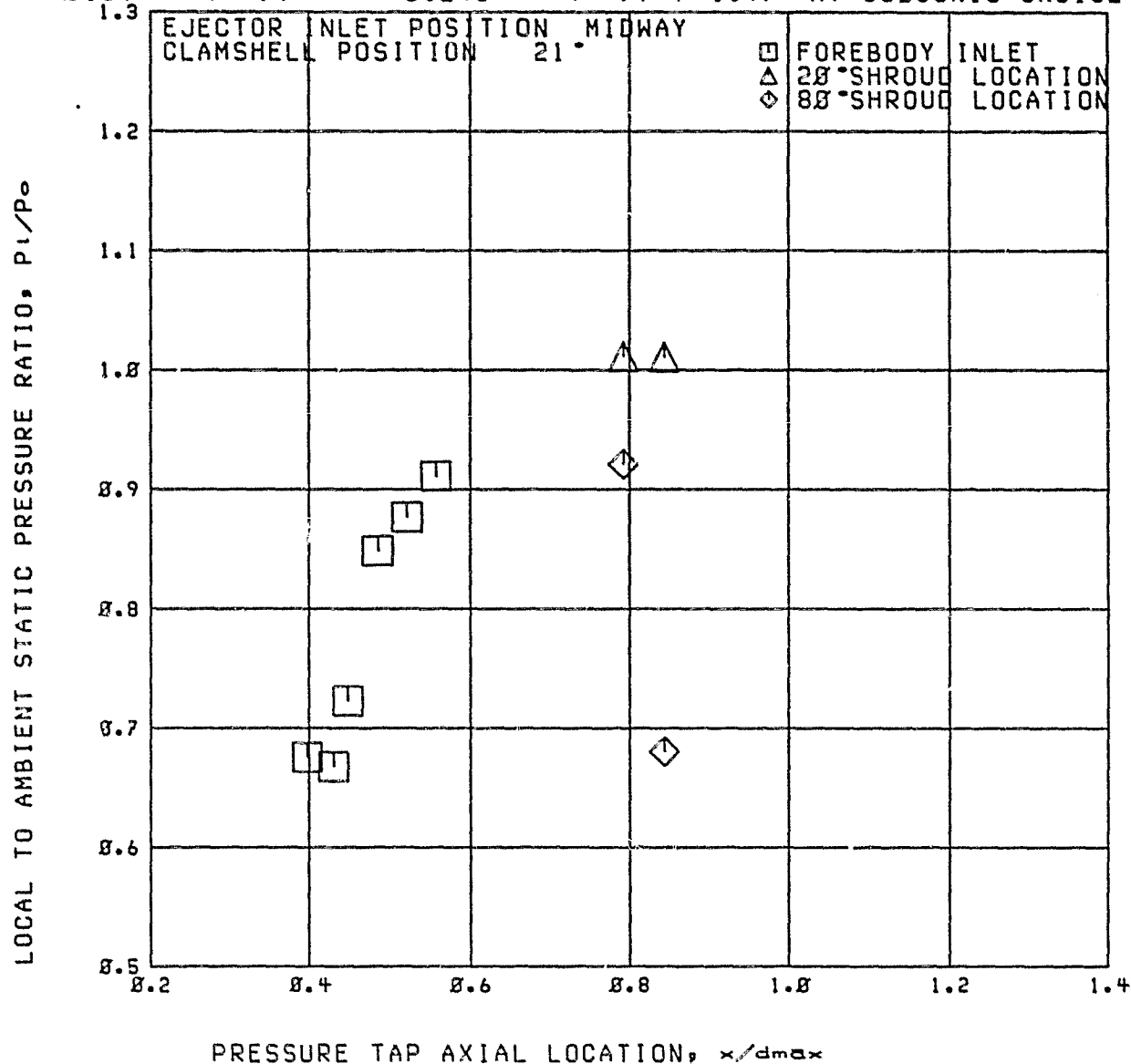
Run 31

RDG=1765

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 5.243$   $P_{tr}/P_{tr} = 1.97$  AT SUBSONIC CRUISE



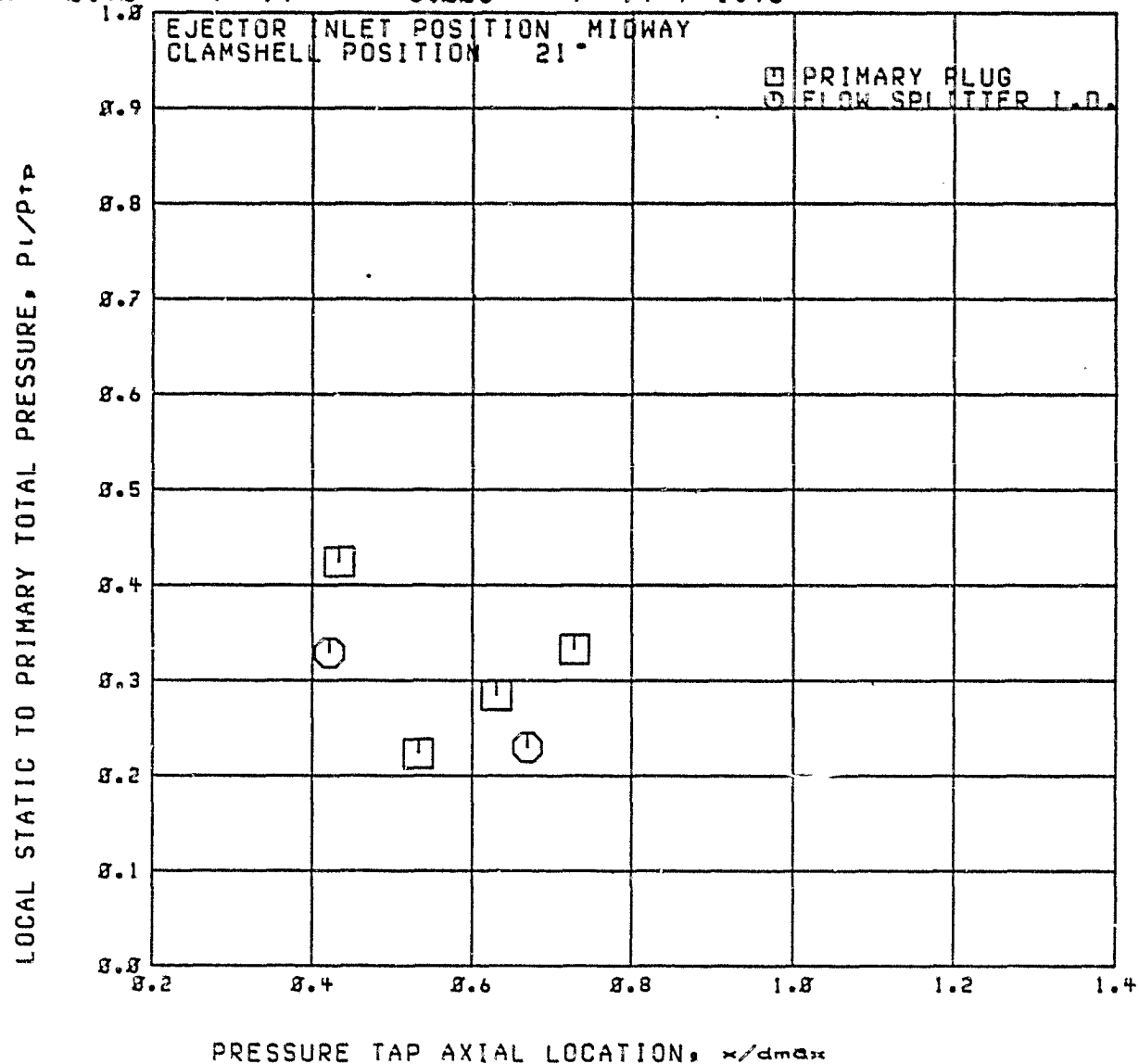
Run 31

C2

RDG=1766

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.98$   $P_{tr}/P_o = 6.885$   $P_{tr}/P_{tp} = 1.96$



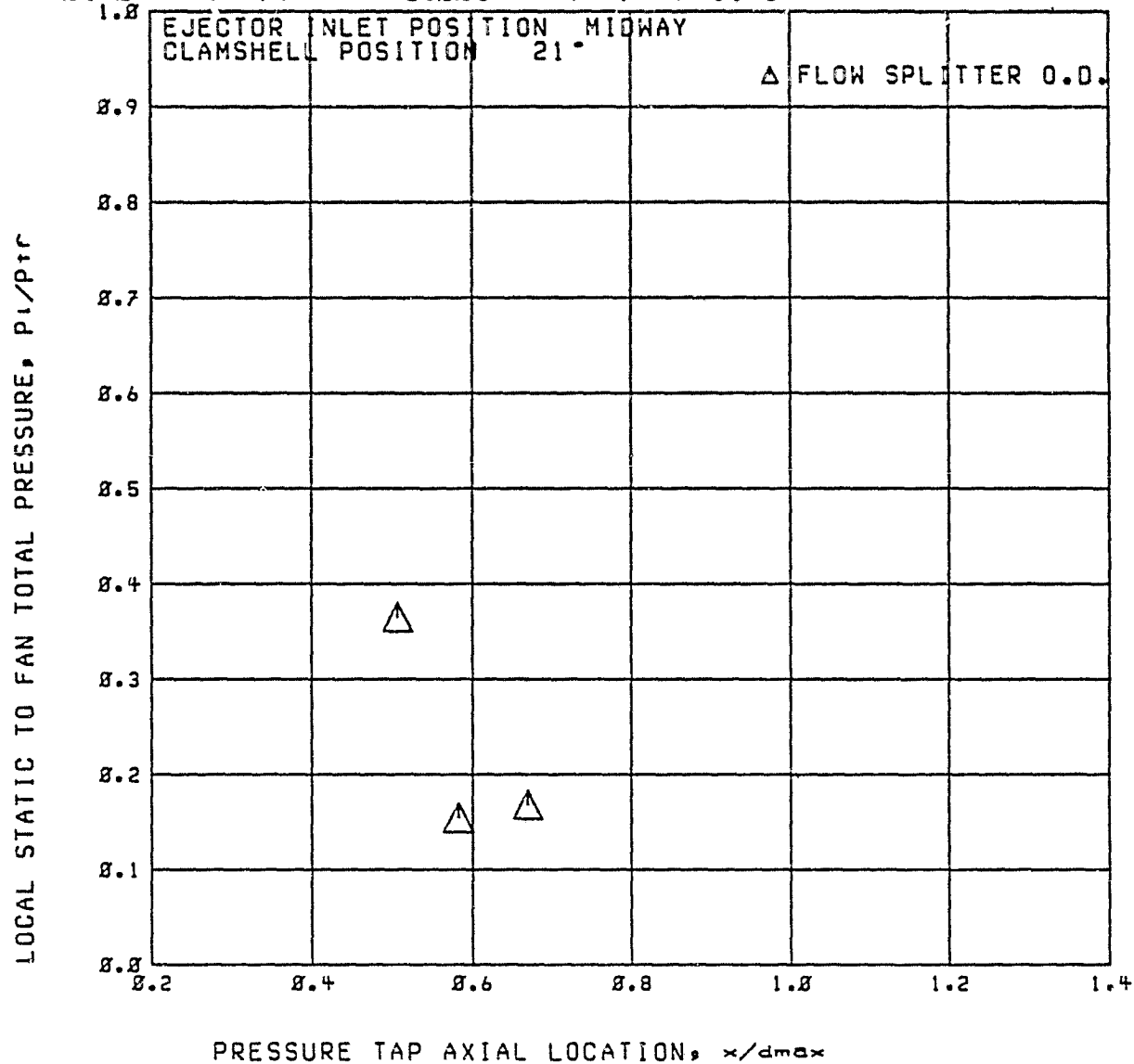
RUN 31

C2

RDG=1766

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.90$   $P_{tr}/P_0 = 6.005$   $P_{tr}/P_{tp} = 1.96$



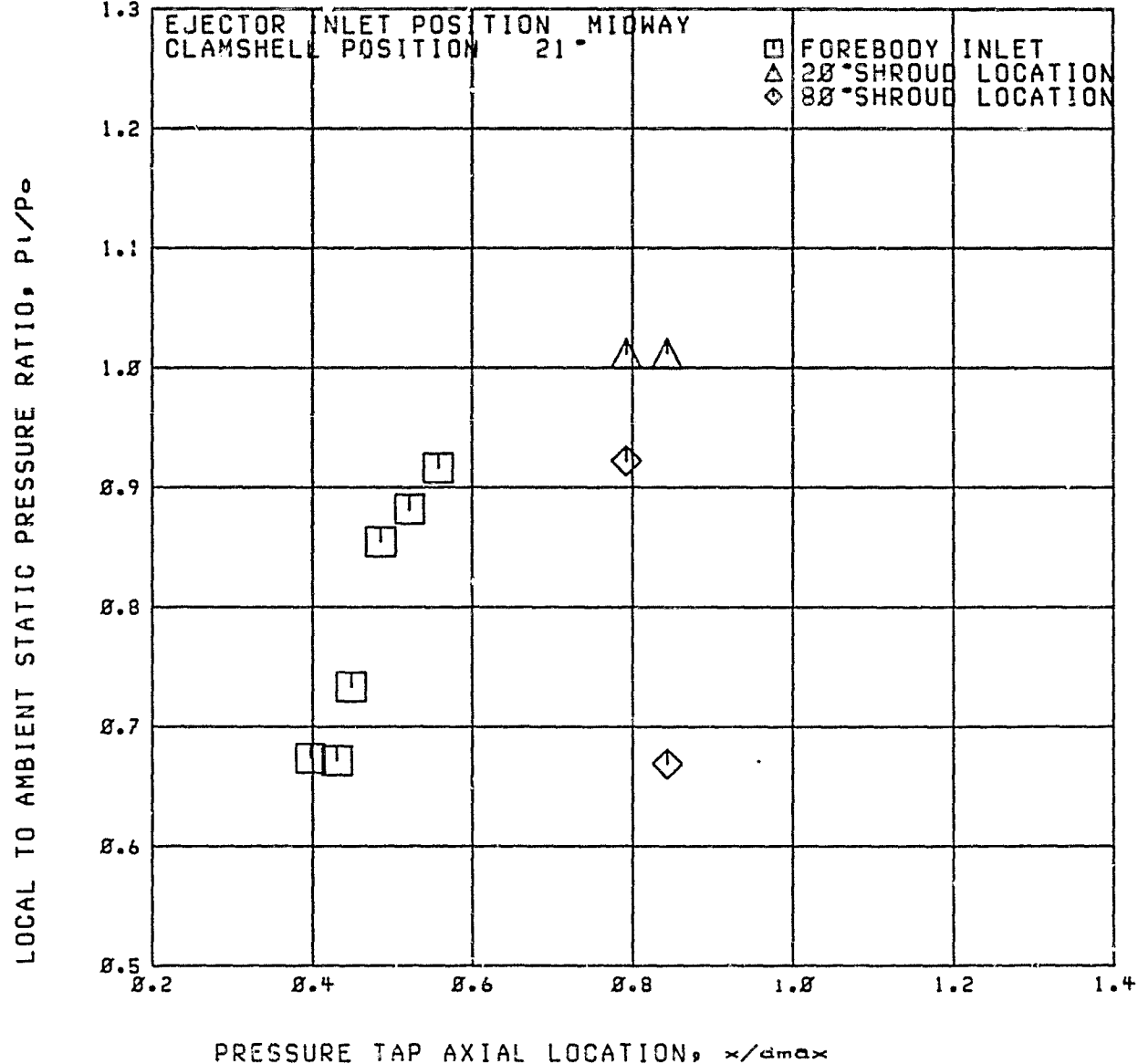
Row 31

C2

RDG=1766

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.90$   $P_{tr}/P_o = 6.005$   $P_{tr}/P_{tp} = 1.96$  AT SUBSONIC CRUISE



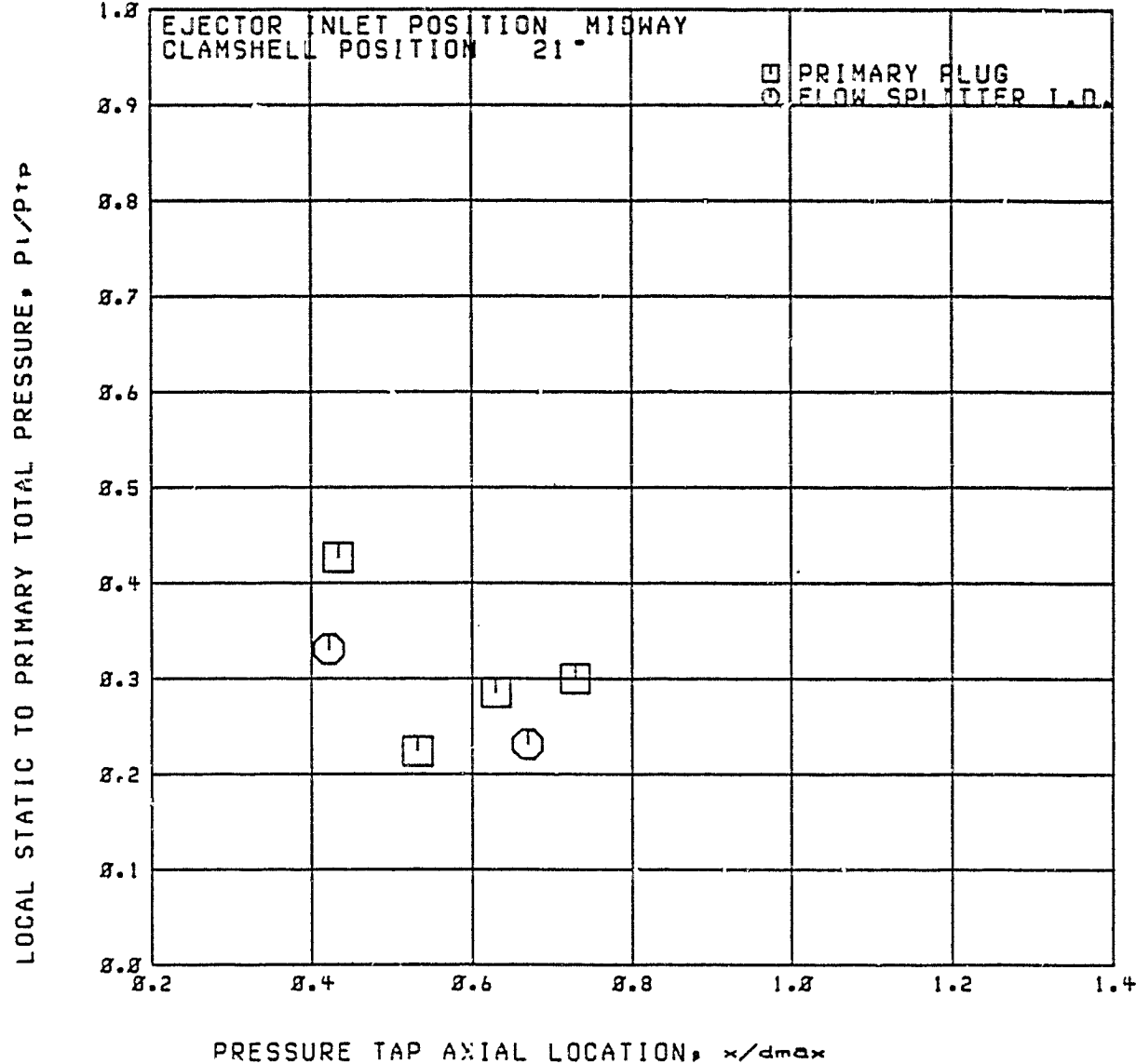
Run 31

C2

RDG=1767

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$   $P_{tr}/P_{02} = 6.937$   $P_{tr}/P_{tp} = 1.98$



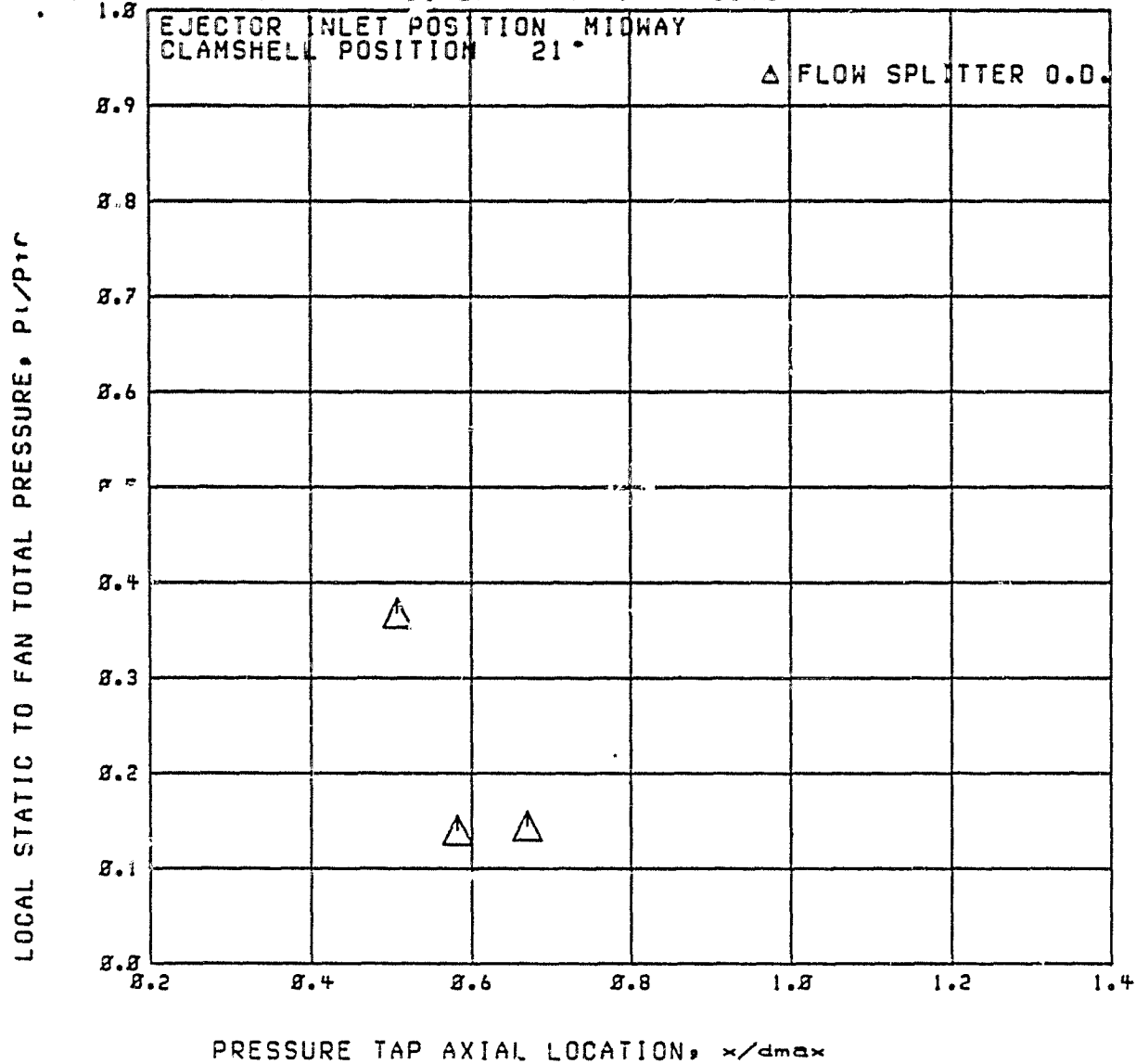
RUN 31

C2

RDG=1767

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_\infty = 0.98$   $P_{tr}/P_\infty = 6.987$   $P_{tr}/P_{tp} = 1.98$



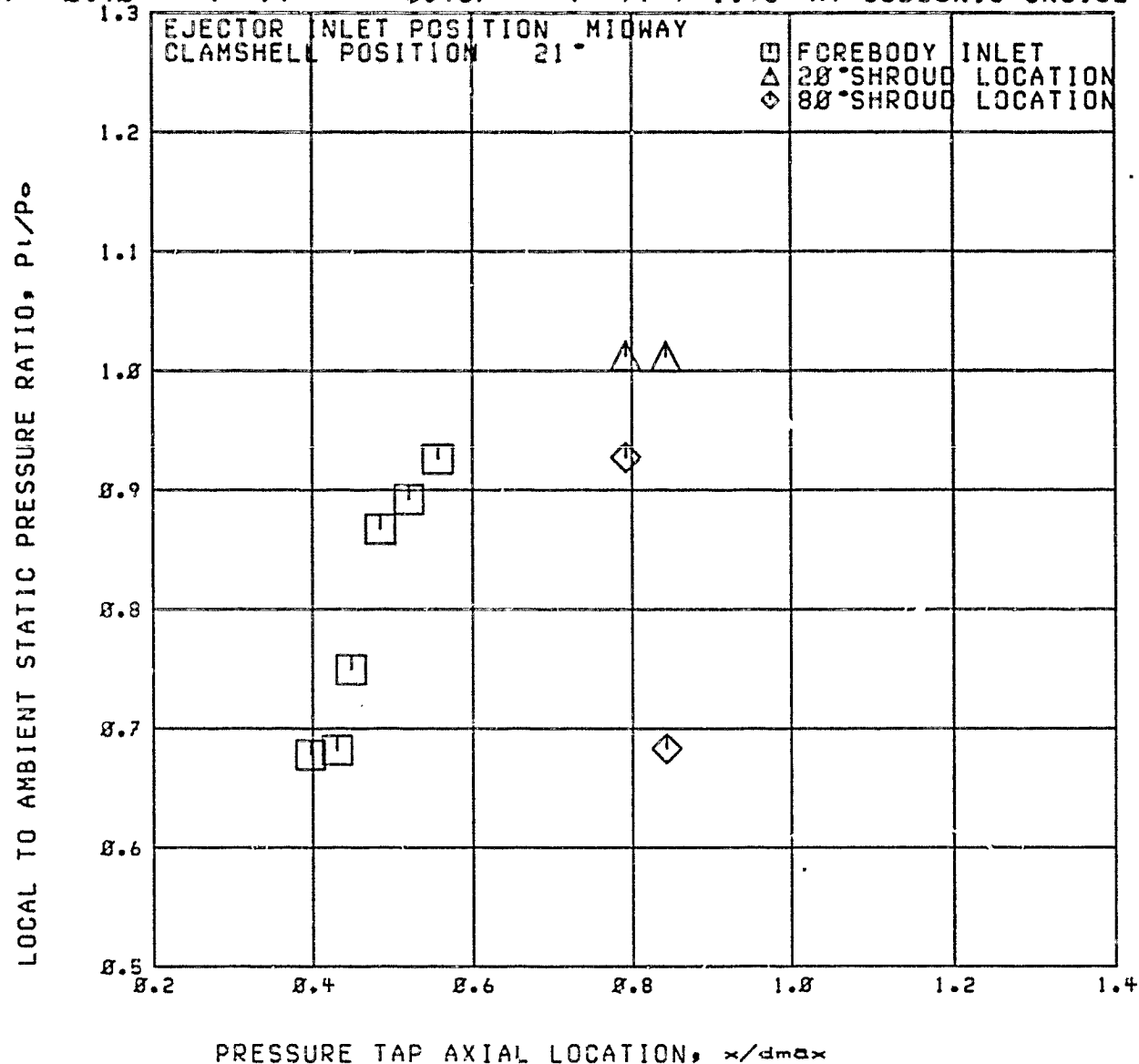
Run 31

C2

RDG=1767

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.98$   $P_{tr}/P_o = 5.987$   $P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE





RDG. 1786-1828

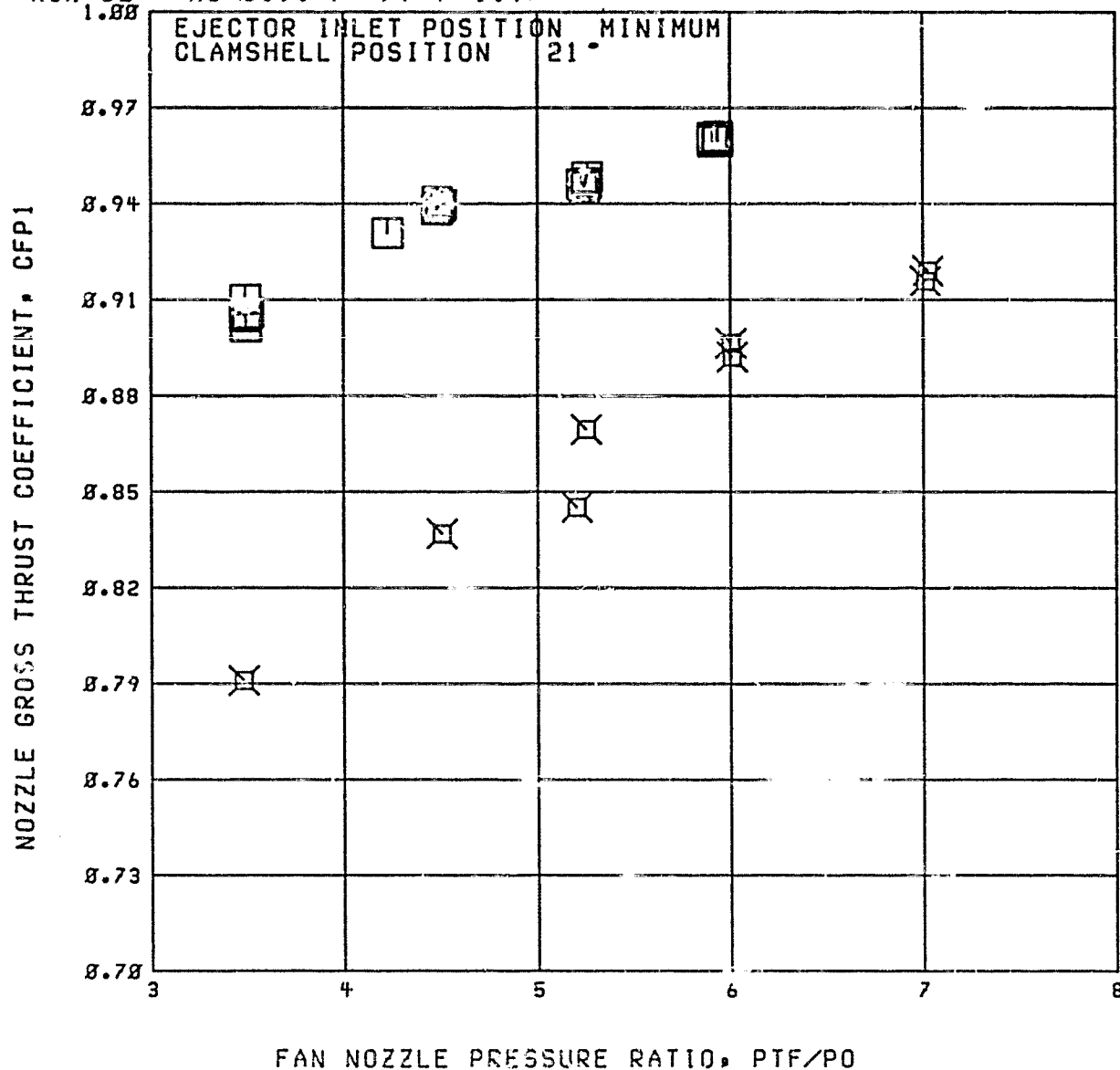
C2

SUBSONIC CRUISE

$M_0 =$

$\square = 0.9$   
 $\boxtimes = 0.98$

RUN 32  $M_0=0.9$   $P_{tC}/P_{tP}=1.97$



ROG. 1786-1828

C2

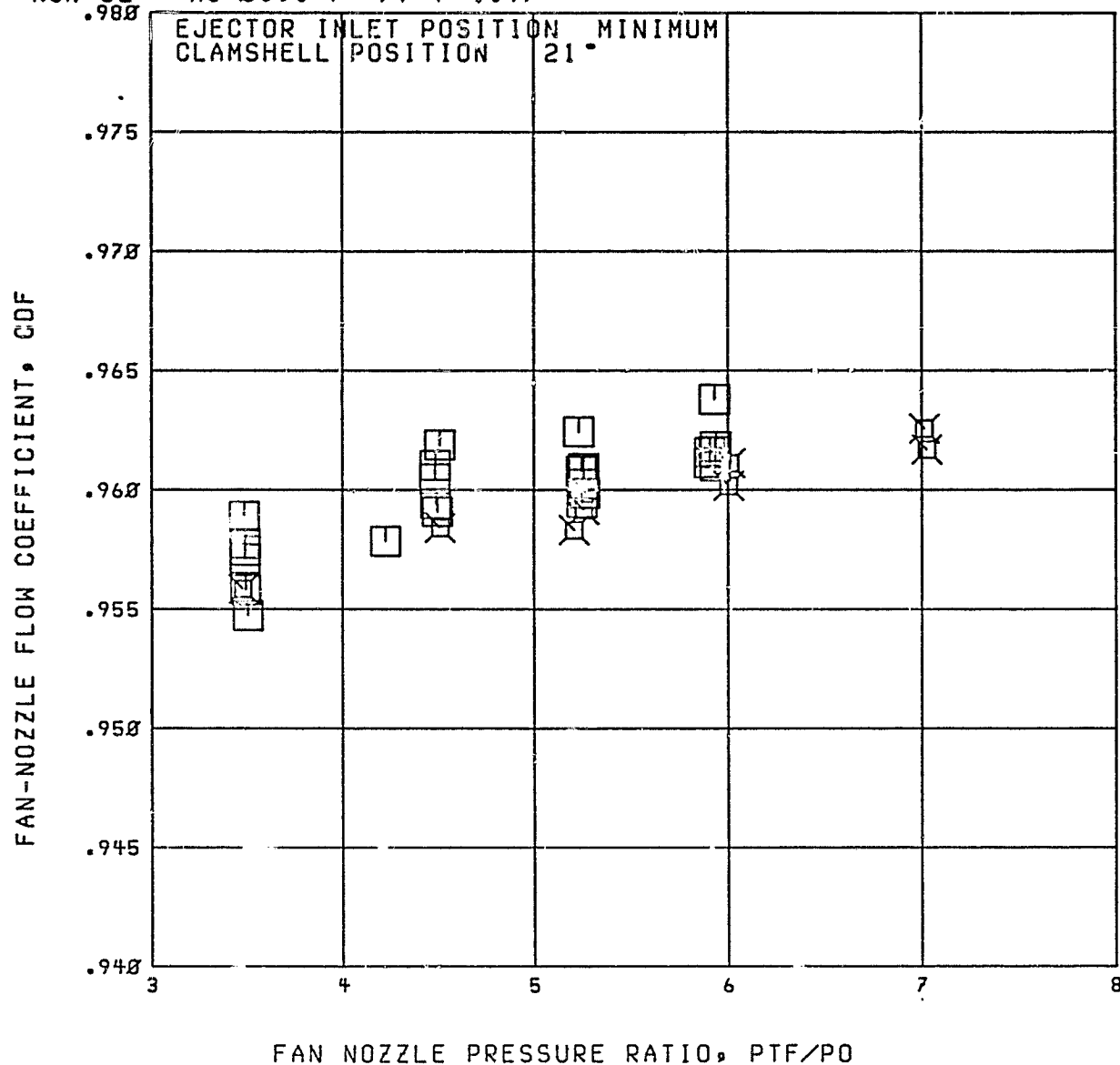
SUBSONIC CRUISE

$M_0 =$

$\square = 0.8$

$\times = 0.98$

RUN 32  $M_0=0.9$   $P_{tC}/P_{tP}=1.97$



R0G. 1786-1828

C2

SUBSONIC CRUISE

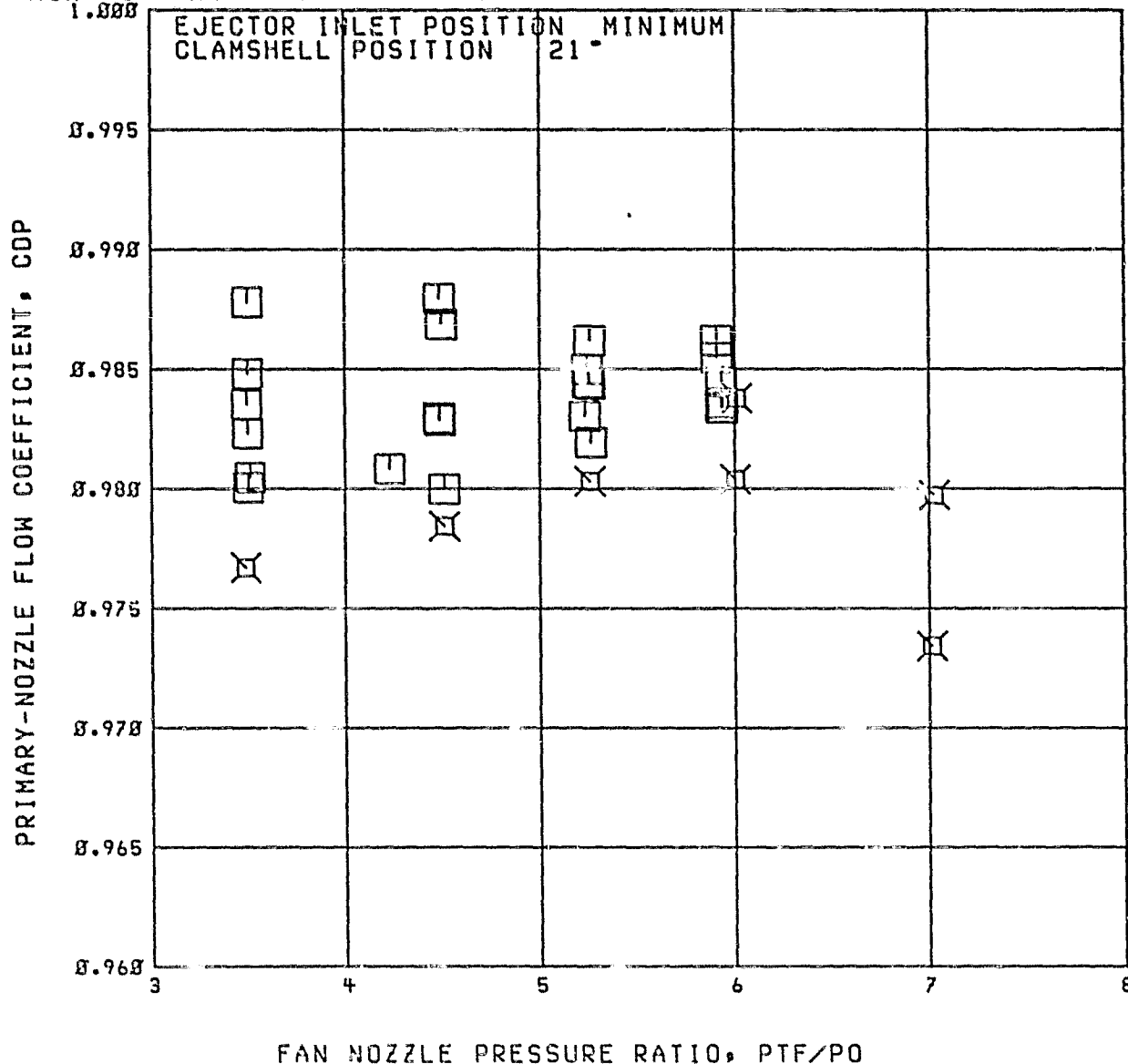
$M_0 =$

$\square = 0.8$

$\times = 0.90$

RUN 32  
1.800

$M_0 = 0.9$   $P_{tr}/P_{tp} = 1.97$



RUN 32

RDG=1786

C2

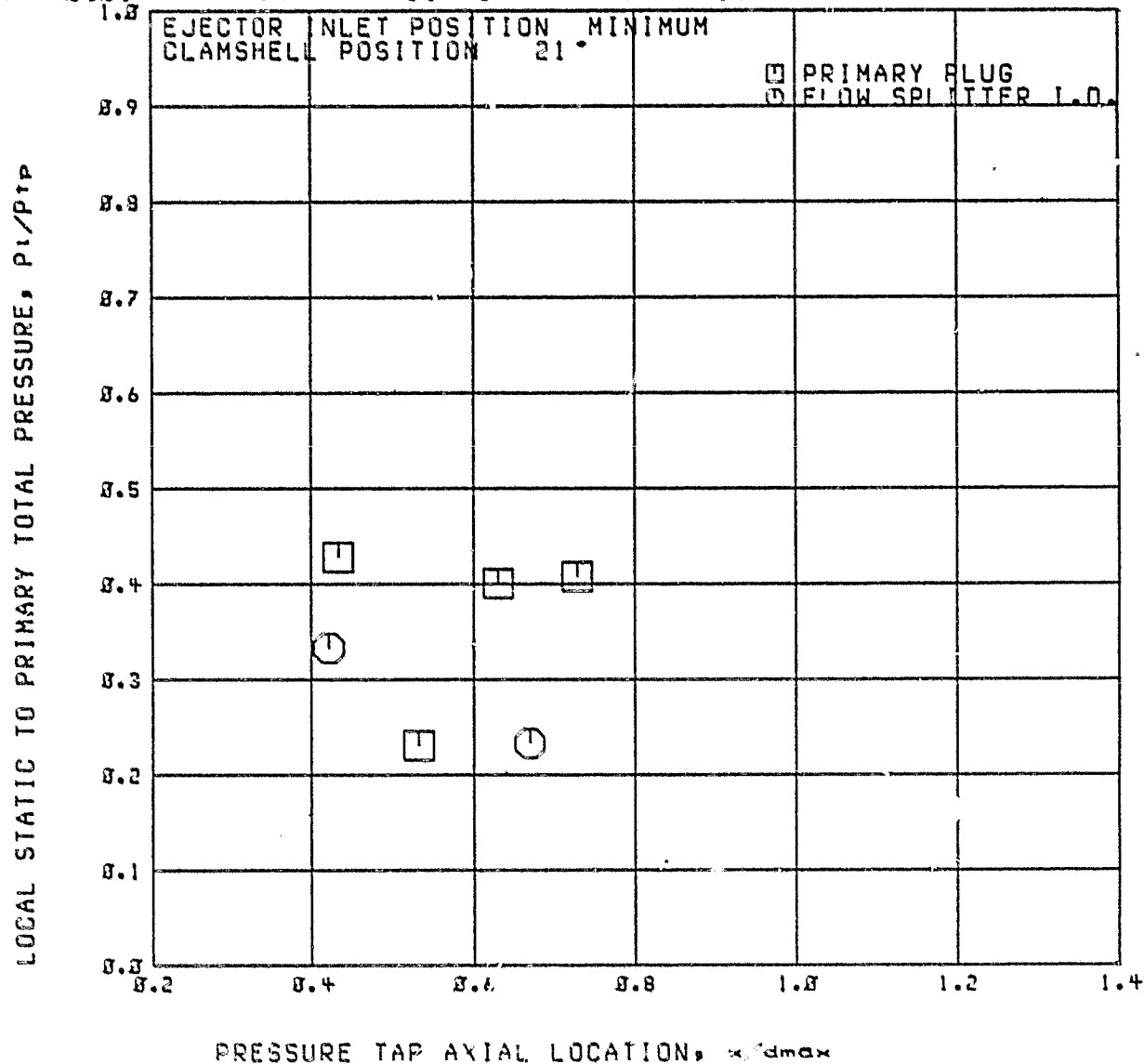
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.81$

$P_{tc}/P_0 =$

3.495

$P_{tc}/P_{tp} = 1.98$



Run 32

C2

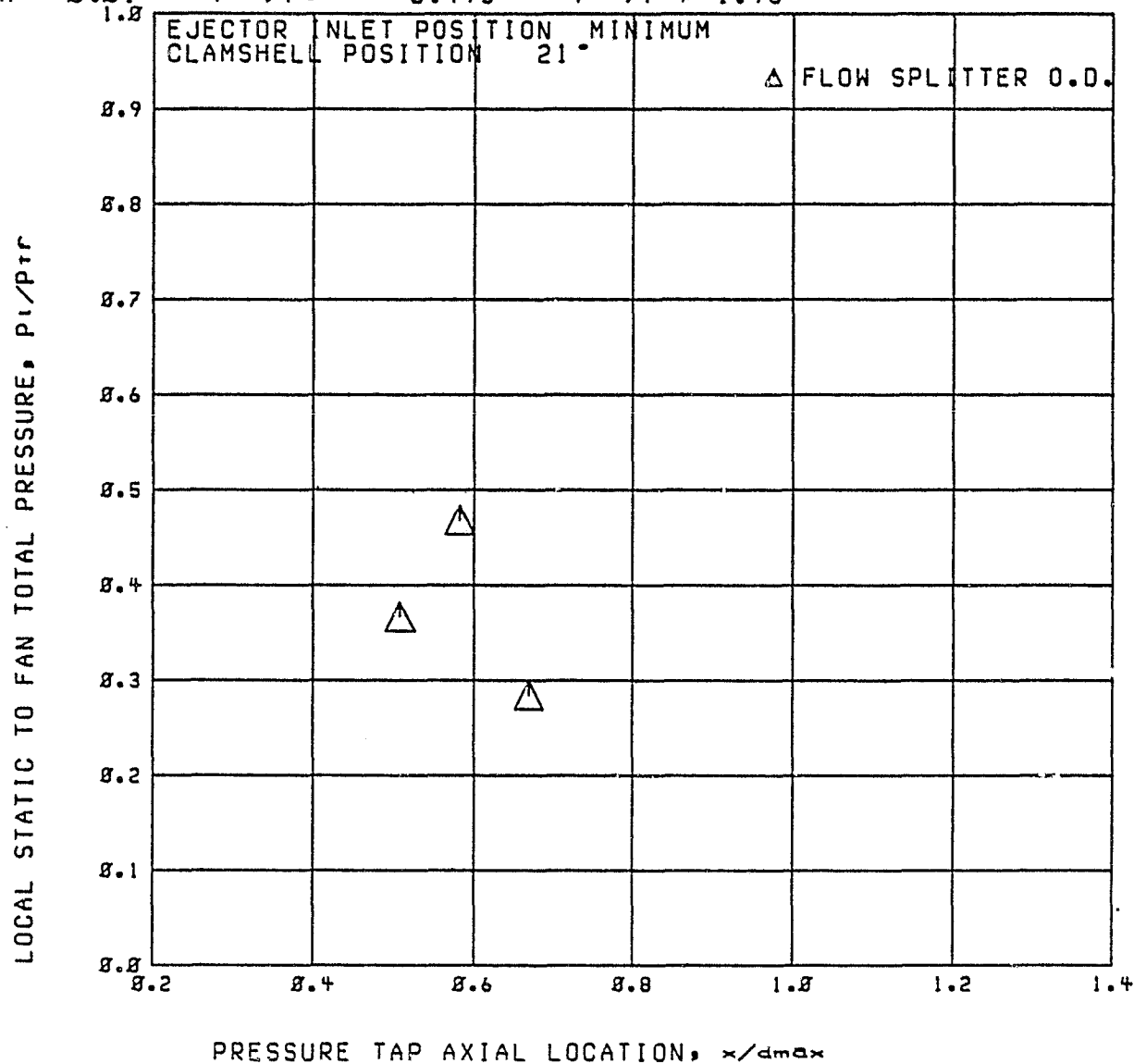
RDG=1786

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.81$

$P_{tr}/P_0 = 3.495$

$P_{tr}/P_{tp} = 1.98$



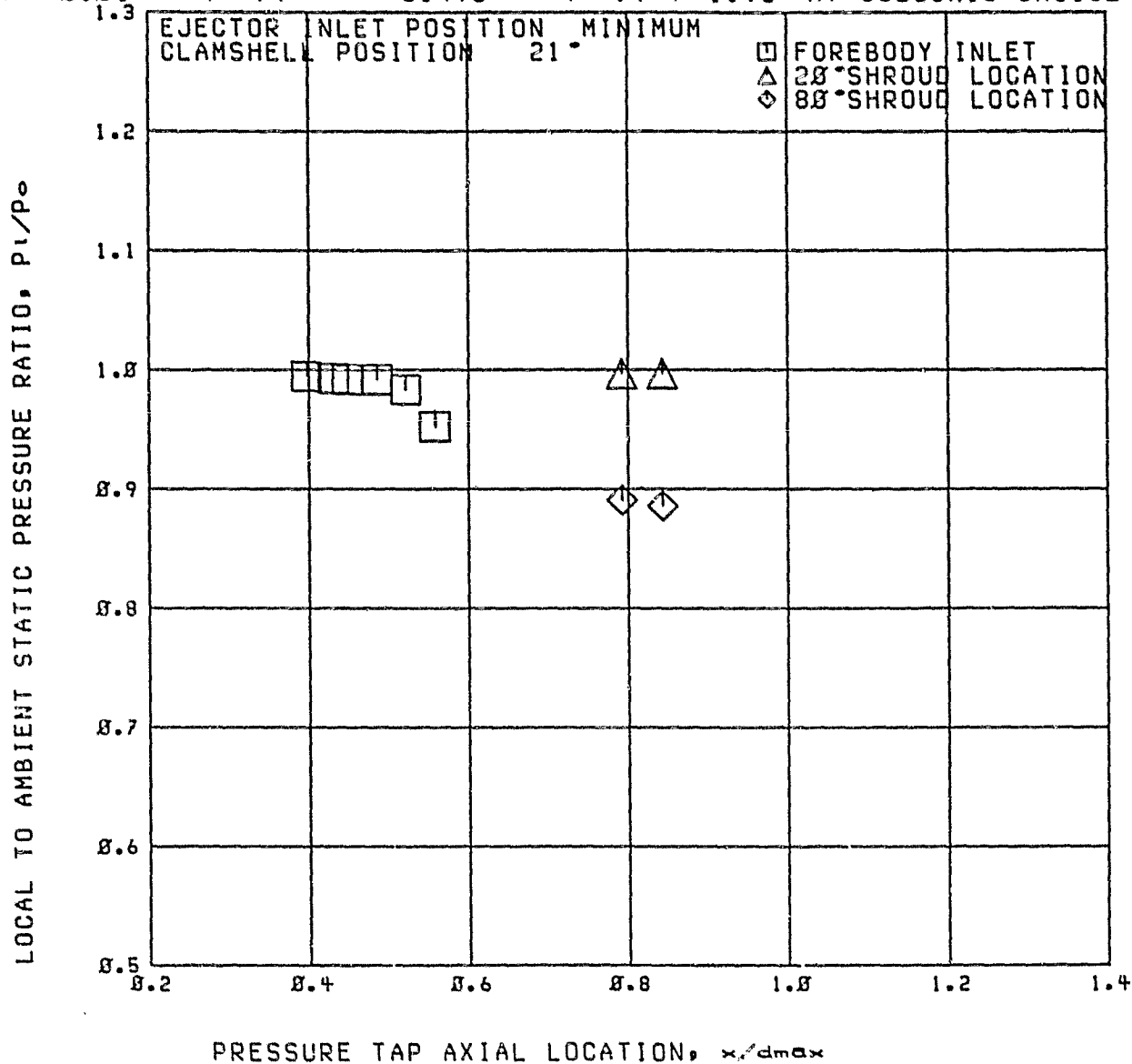
RUN 32

RDG=1786

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.01$   $P_{tr}/P_0 = 3.495$   $P_{tr}/P_{tr} = 1.98$  AT SUBSONIC CRUISE



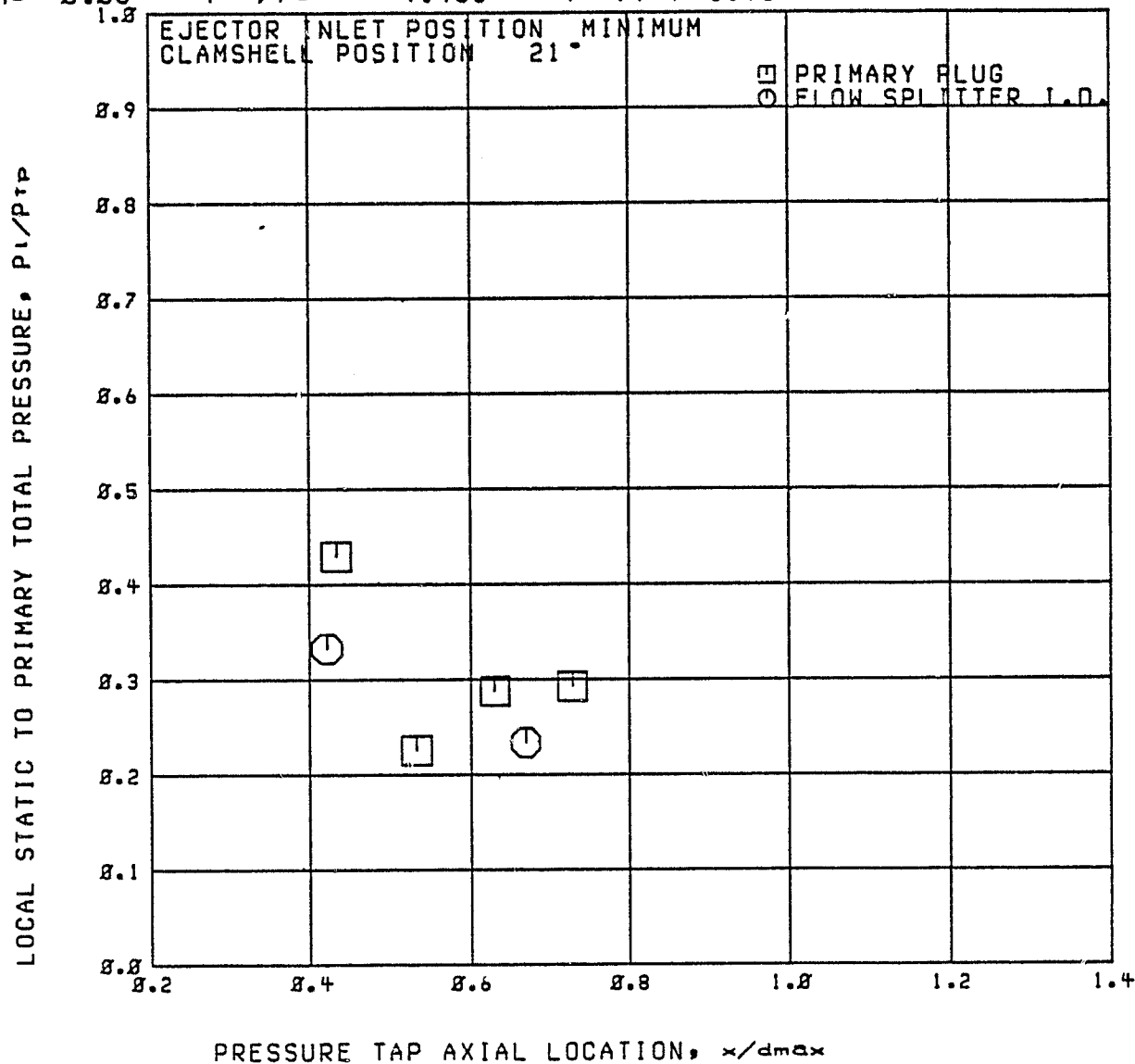
Run 32

C2

RDG=1787

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.83$   $P_{tr}/P_o = 4.486$   $P_{tr}/P_{tp} = 1.98$



Run 32

C2

RDG=1787

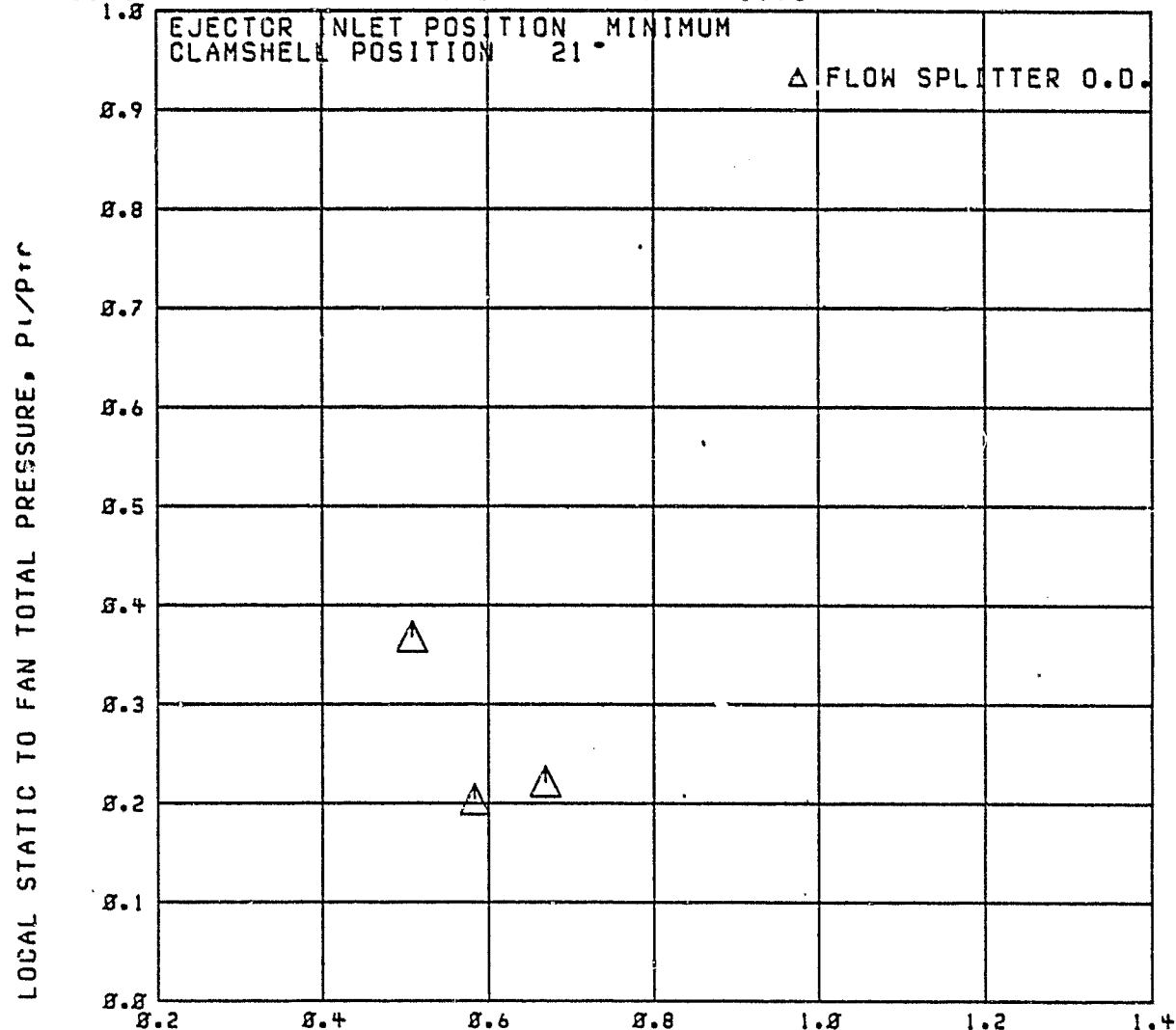
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.83$

$P_{tr}/P_0 =$

4.486

$P_{tr}/P_{tr} = 1.98$





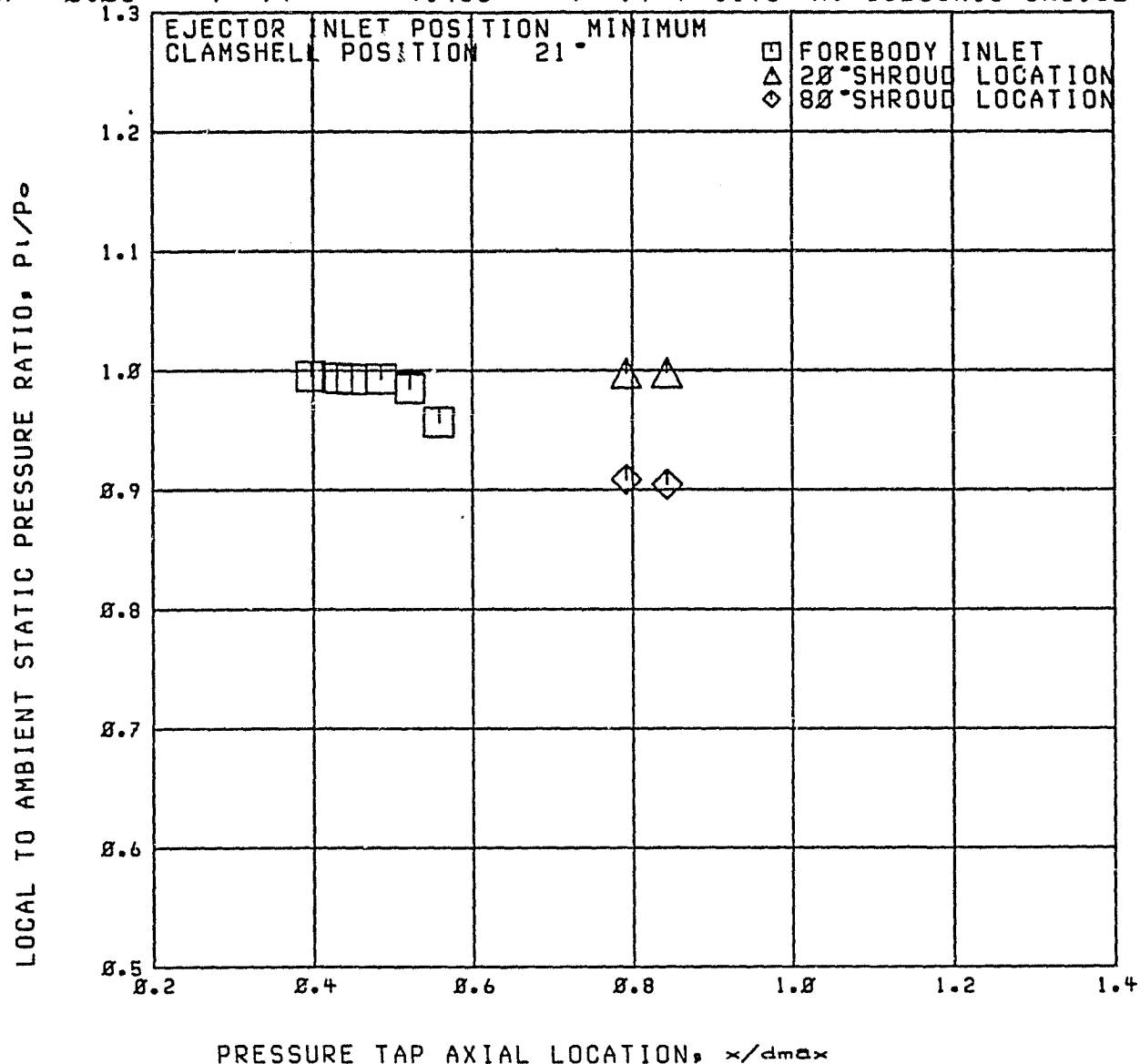
RUN 32

RDG=1787

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.03$   $P_{tr}/P_o = 4.486$   $P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE



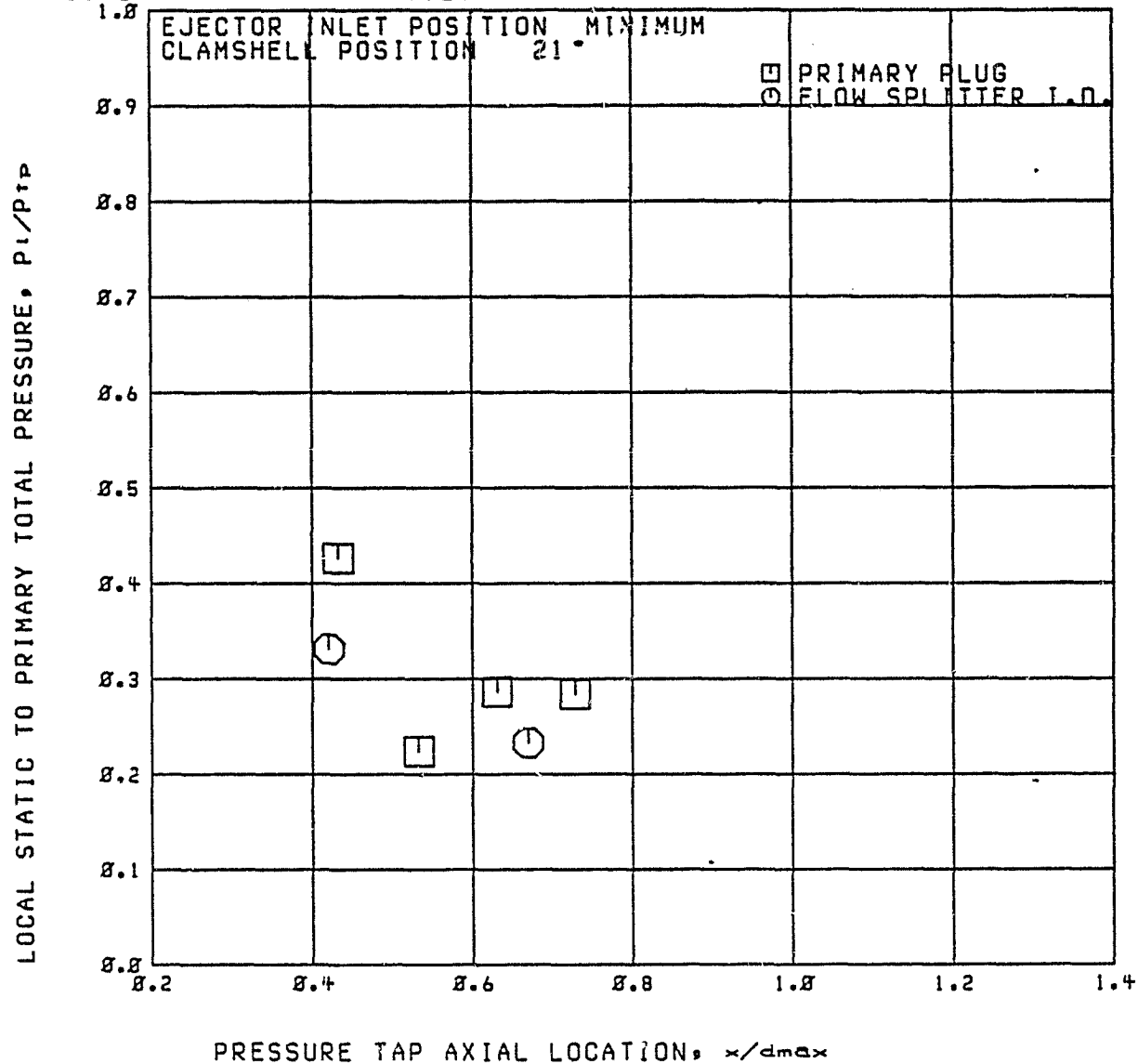
RUN 32

C2

RDG=1798

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.85$   $P_{tr}/P_0 = 5.255$   $P_{tr}/P_{tp} = 1.98$



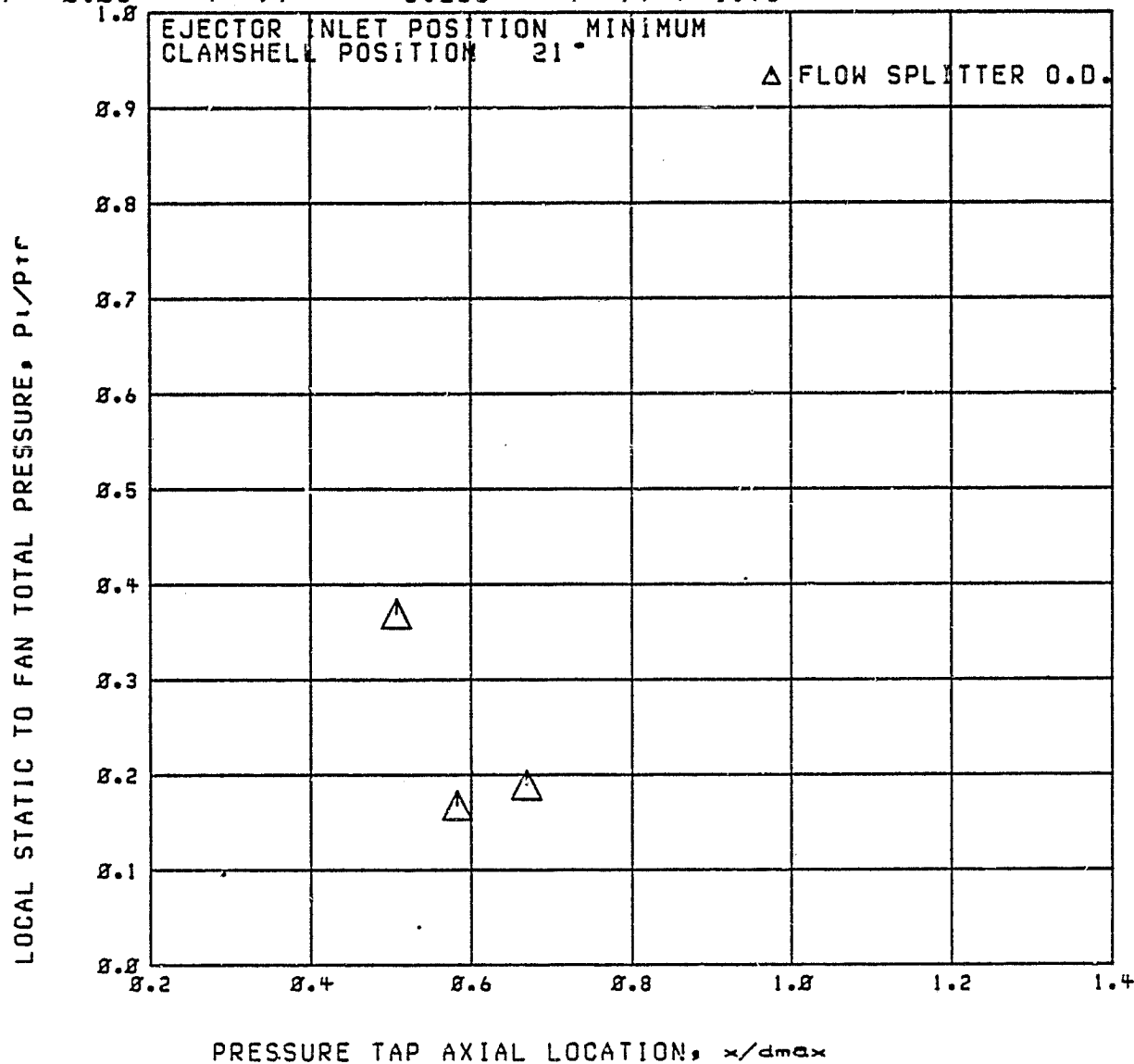
RUN 32

C2

RDG=1788

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.05$   $P_{tr}/P_o = 5.255$   $P_{tr}/P_{tp} = 1.98$



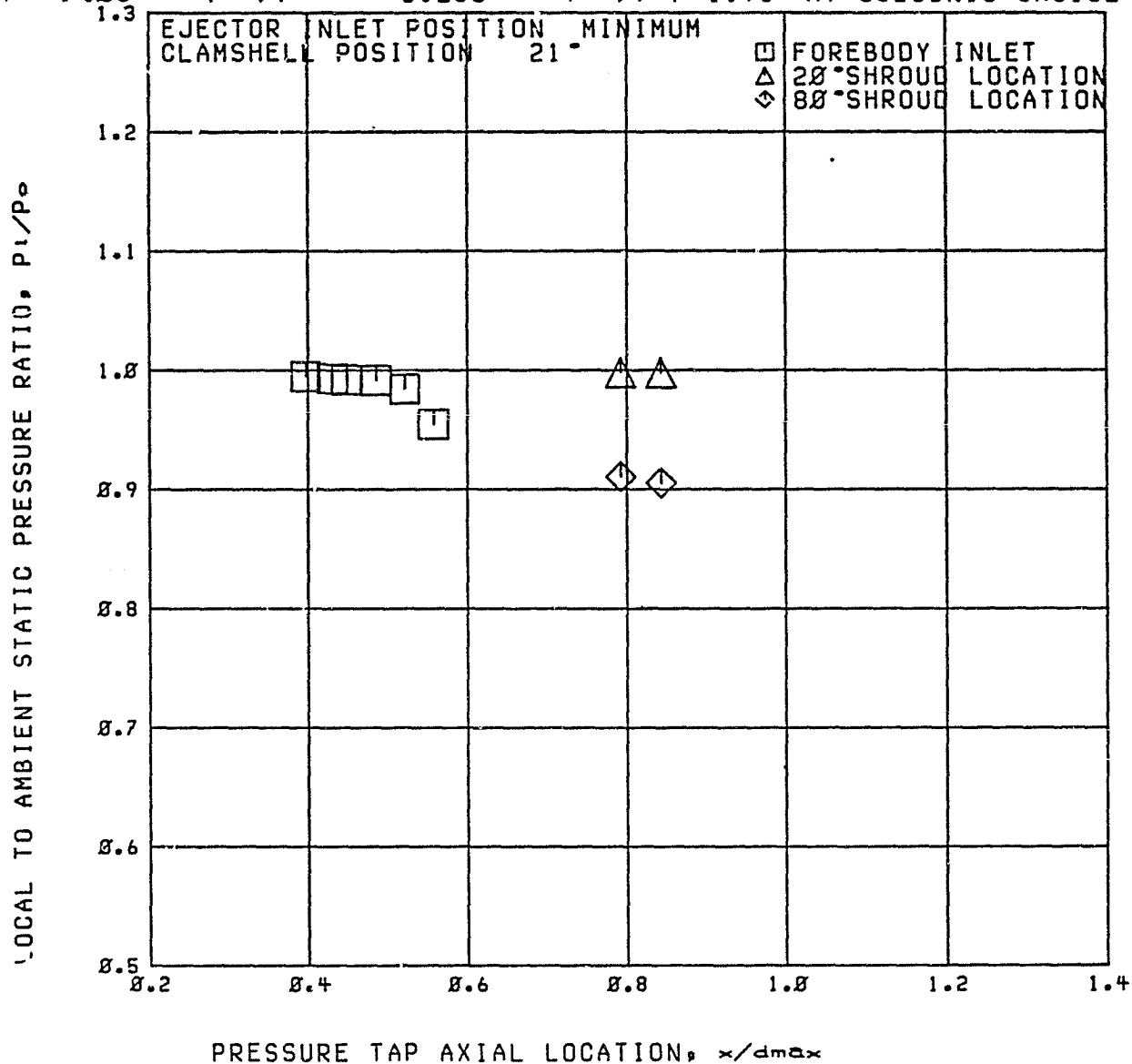
Run 32

RDG=1788

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.05$   $P_{tr}/P_o = 5.255$   $P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE



RUN 32

C2

RDG=1789

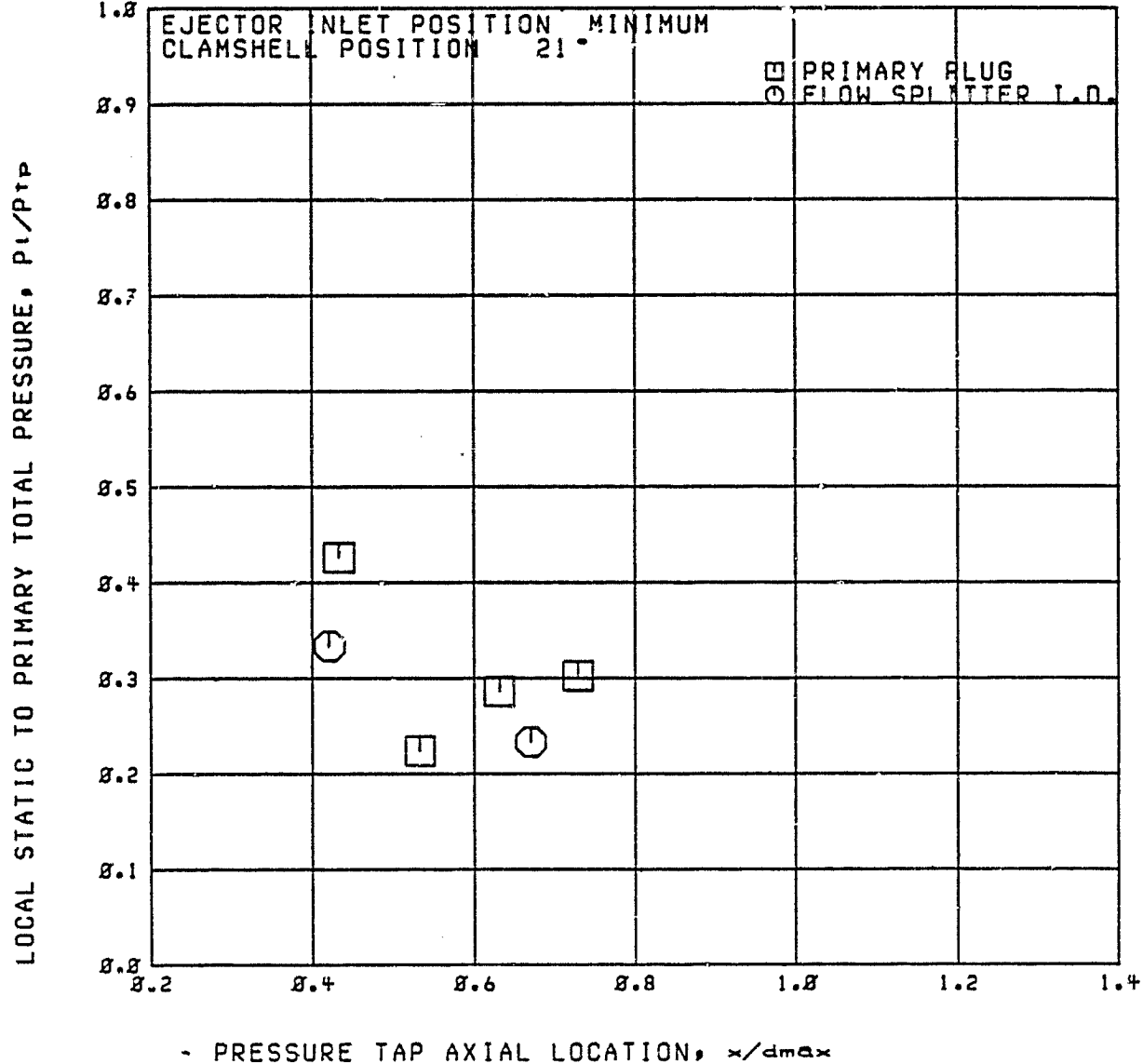
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_\infty = 0.05$

$P_{tr}/P_\infty =$

5.910

$P_{tr}/P_{t1} = 1.97$



Run 32

RDG=1789

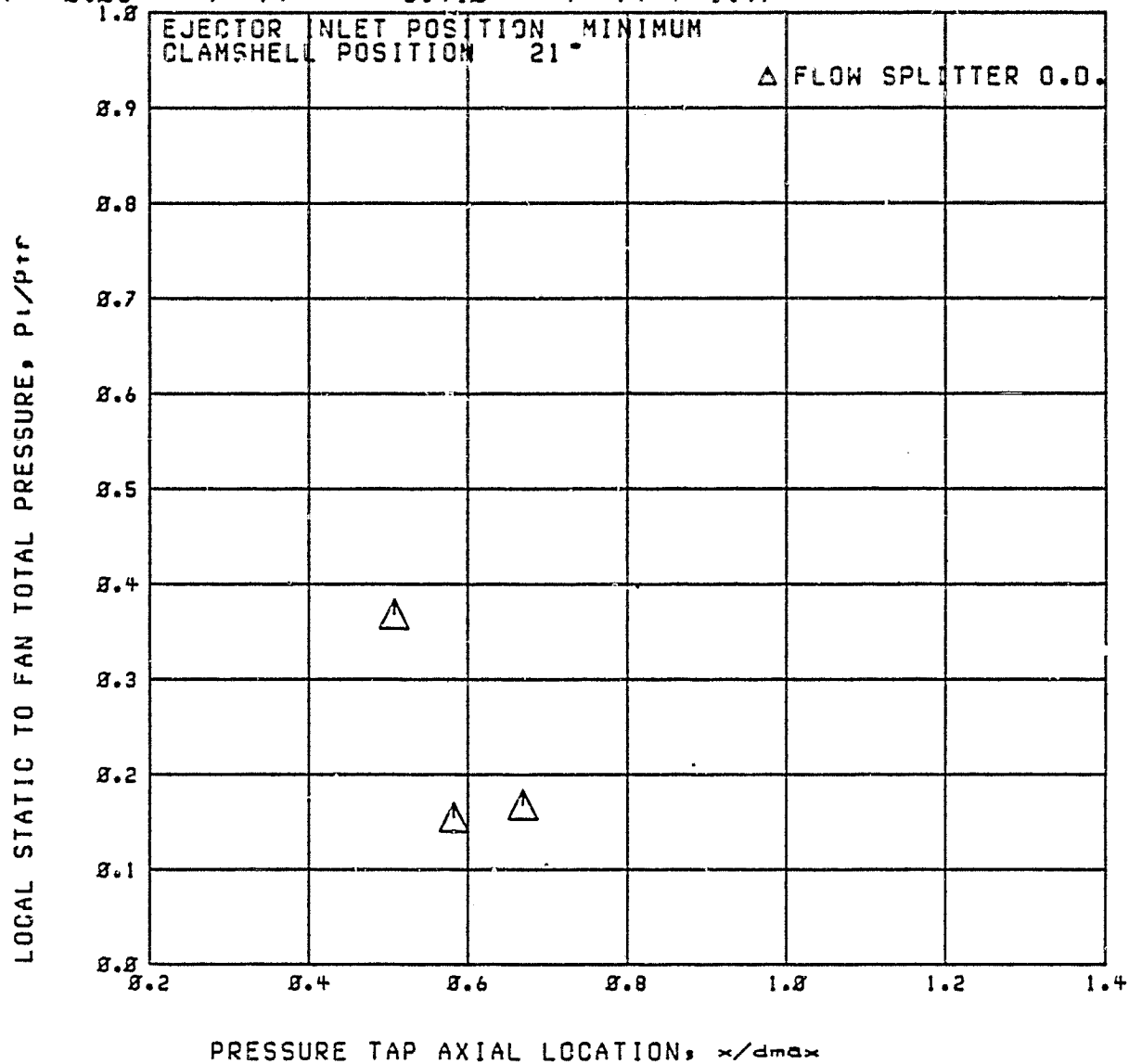
C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.85$

$P_{tr}/P_0 = 5.910$

$P_{tr}/P_{tp} = 1.97$



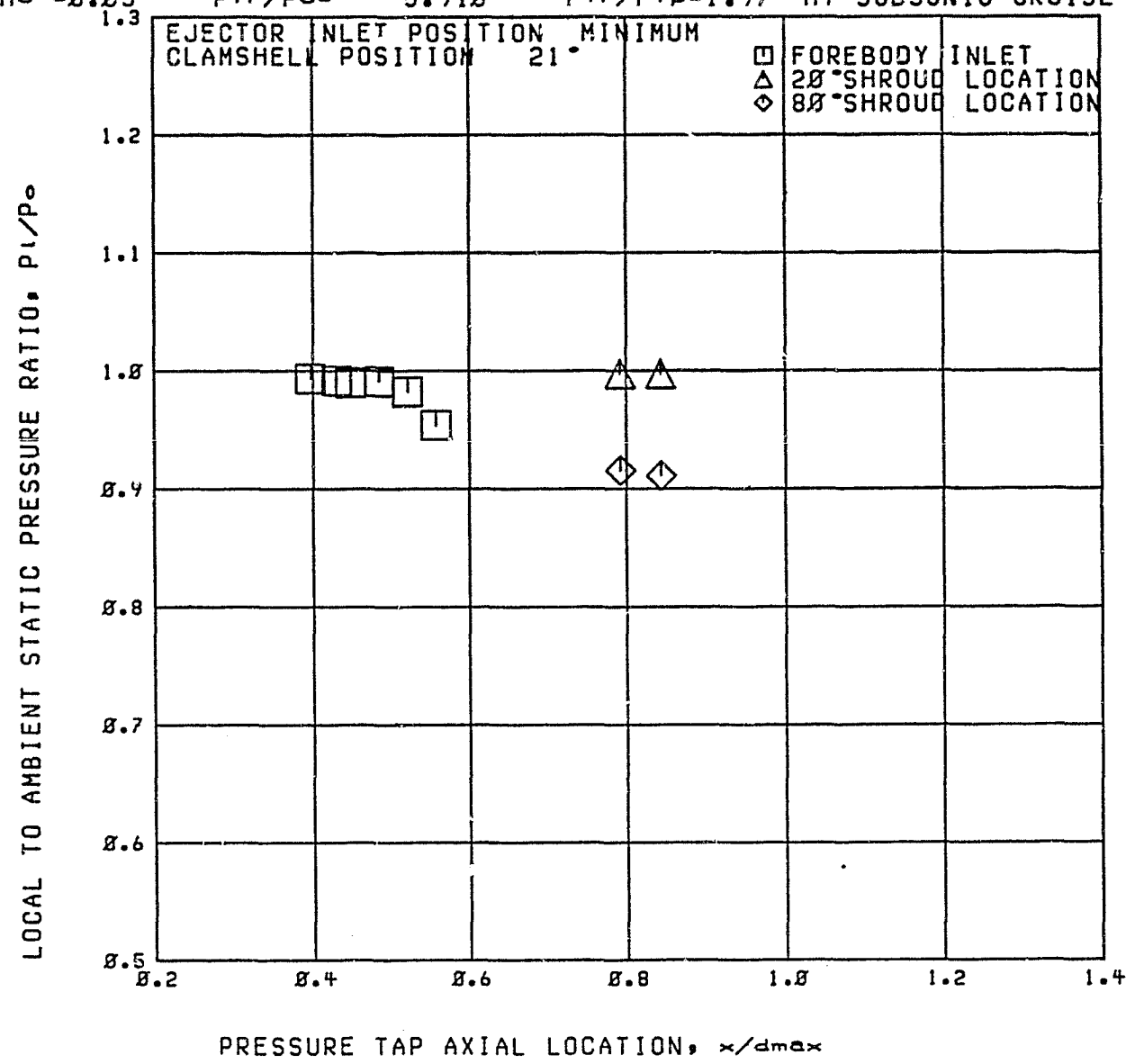
RUN 32

RDG=1789

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.05$      $P_{tr}/P_o = 5.910$      $P_{tr}/P_{tp} = 1.97$     AT SUBSONIC CRUISE



RUN 32

C2

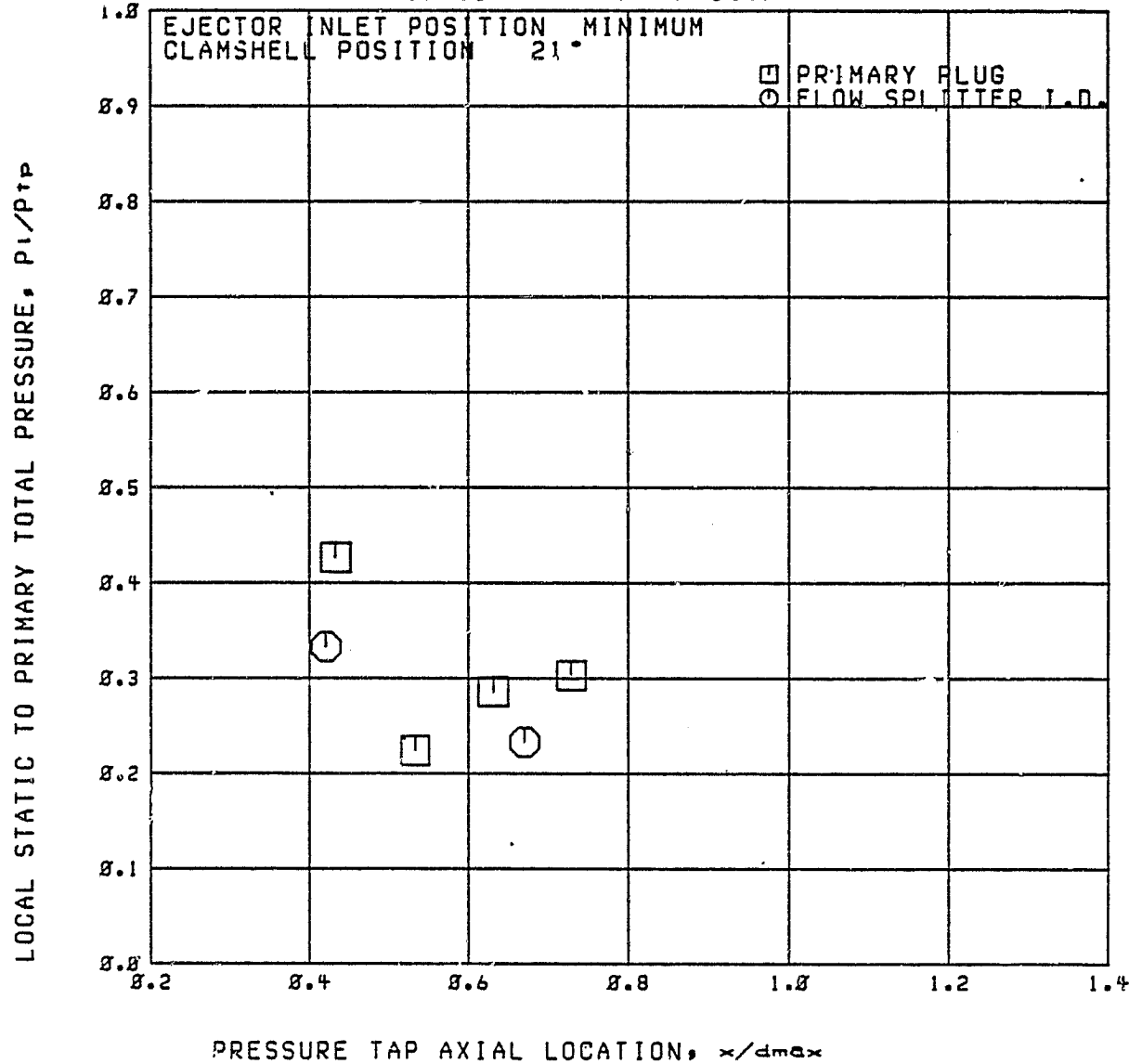
RDG=1798

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.86$

$P_{tr}/P_0 = 5.931$

$P_{tr}/P_{tp} = 1.97$





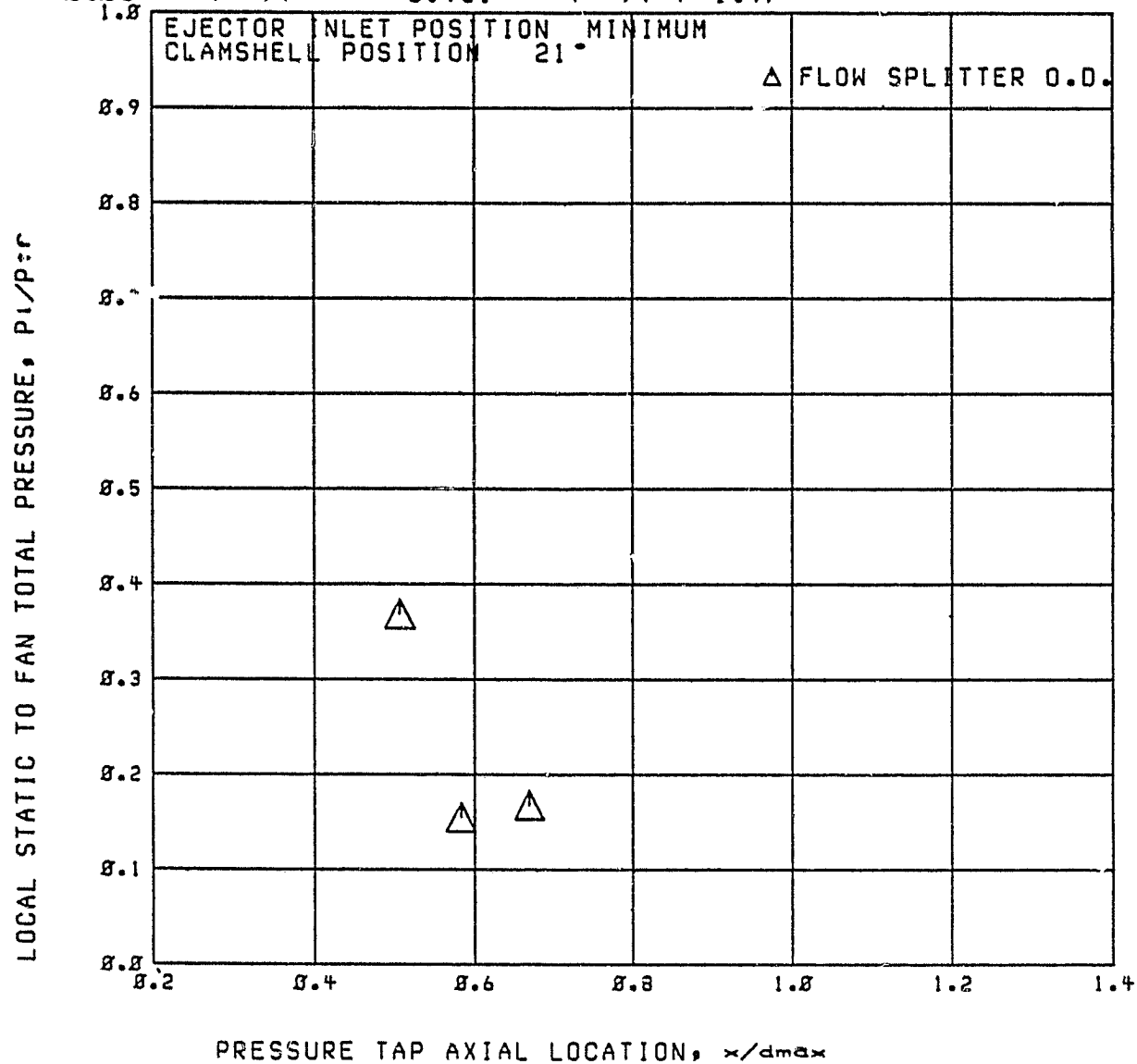
RUN 32

C2

RDG=1798

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.86$   $P_{tr}/P_0 = 5.931$   $P_{tr}/P_{trp} = 1.97$



Run 32

RDG=1798

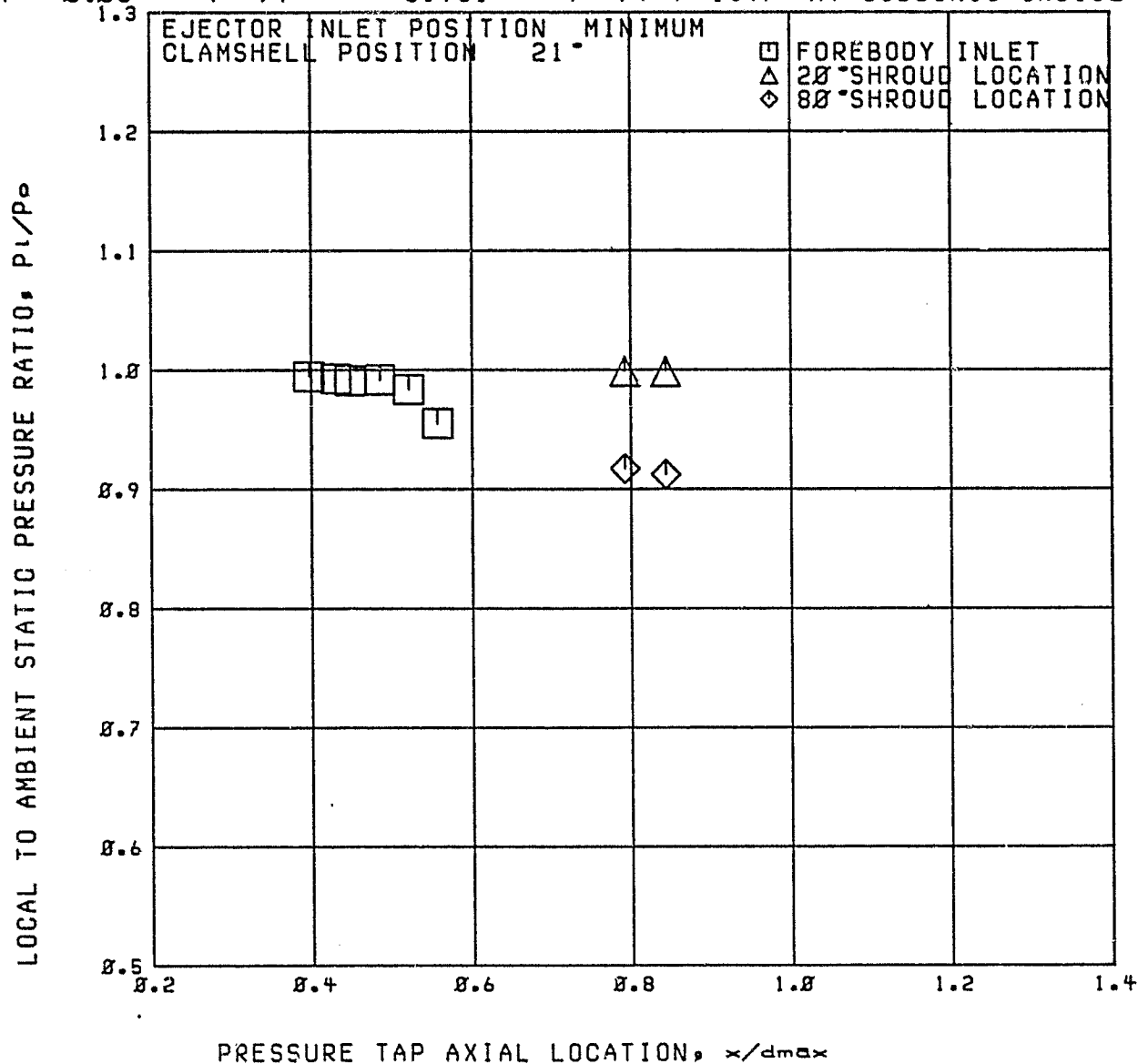
C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.06$

$P_{tr}/P_0 = 5.931$

$P_{tr}/P_{tr} = 1.97$  AT SUBSONIC CRUISE



RUN 32

C2

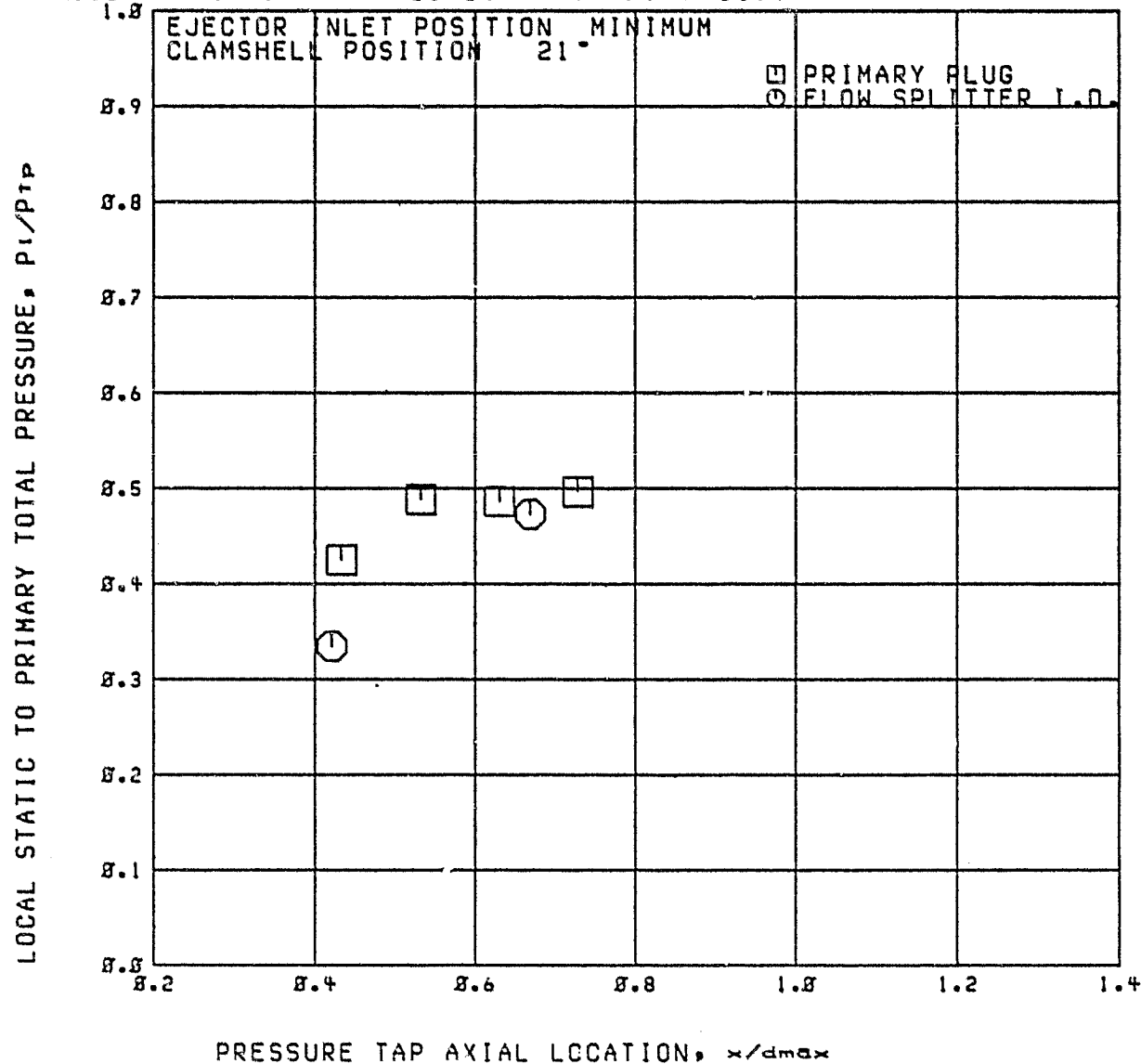
RDG=1813

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_{02} = 3.484$

$P_{tr}/P_{trp} = 1.94$



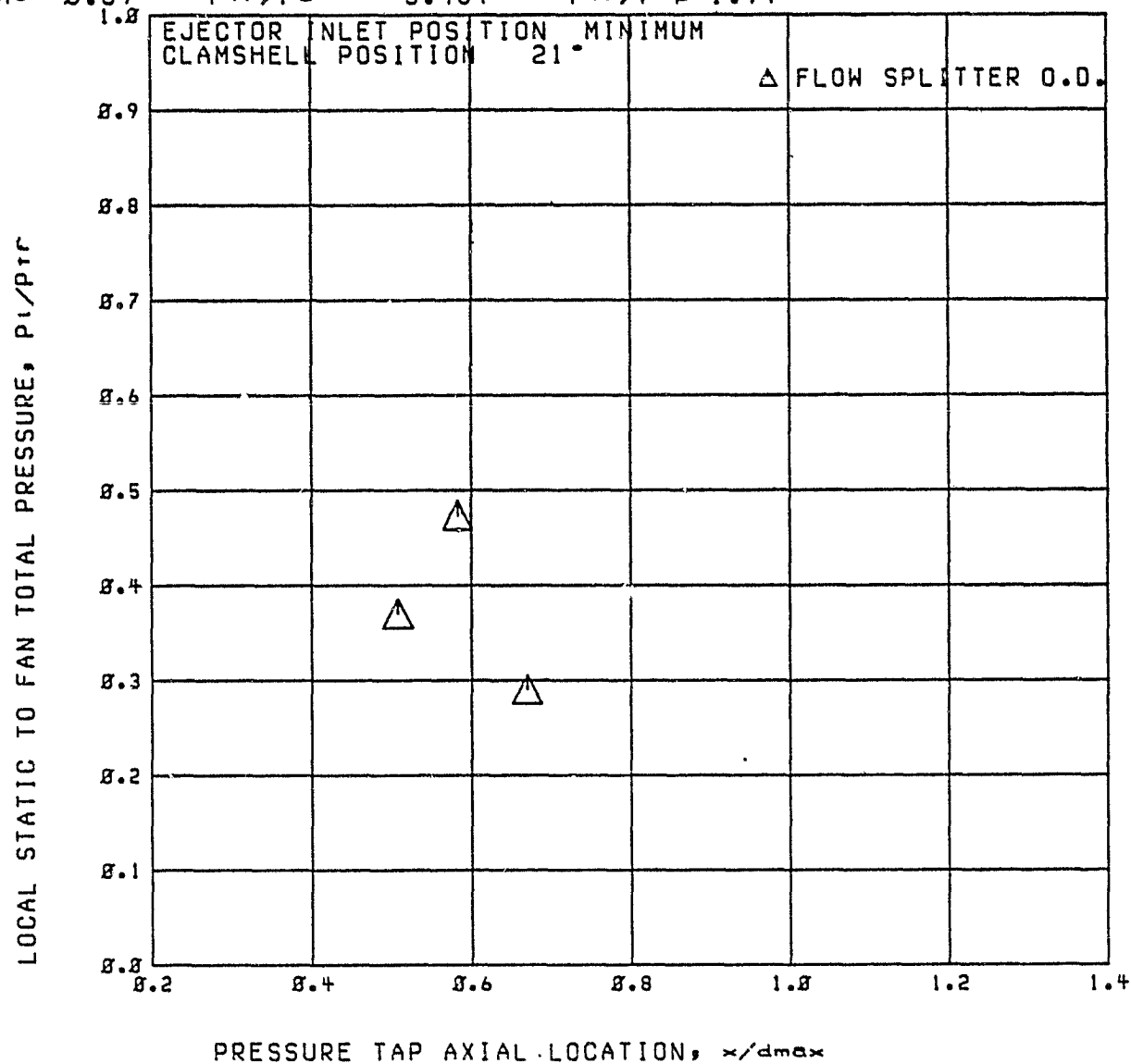
RUN 32

C2

RDG=1813

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$      $P_{tr}/P_0 = 3.484$      $P_{tr}/P_{tp} = 1.94$



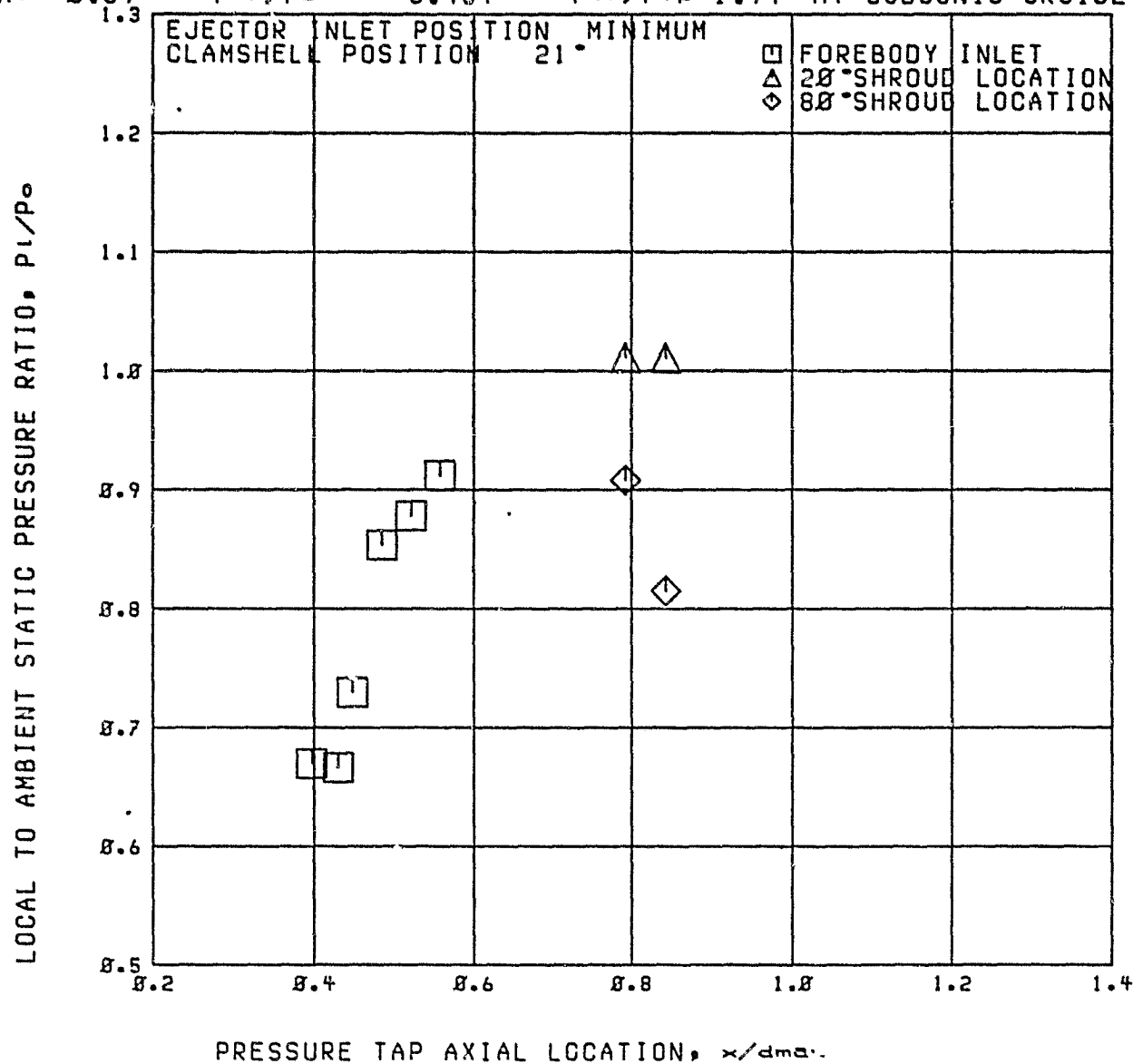
Run 32

RDG=1813

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 3.484$   $P_{tr}/P_{tp} = 1.94$  AT SUBSONIC CRUISE



RUN 32

C2

RDG=1814

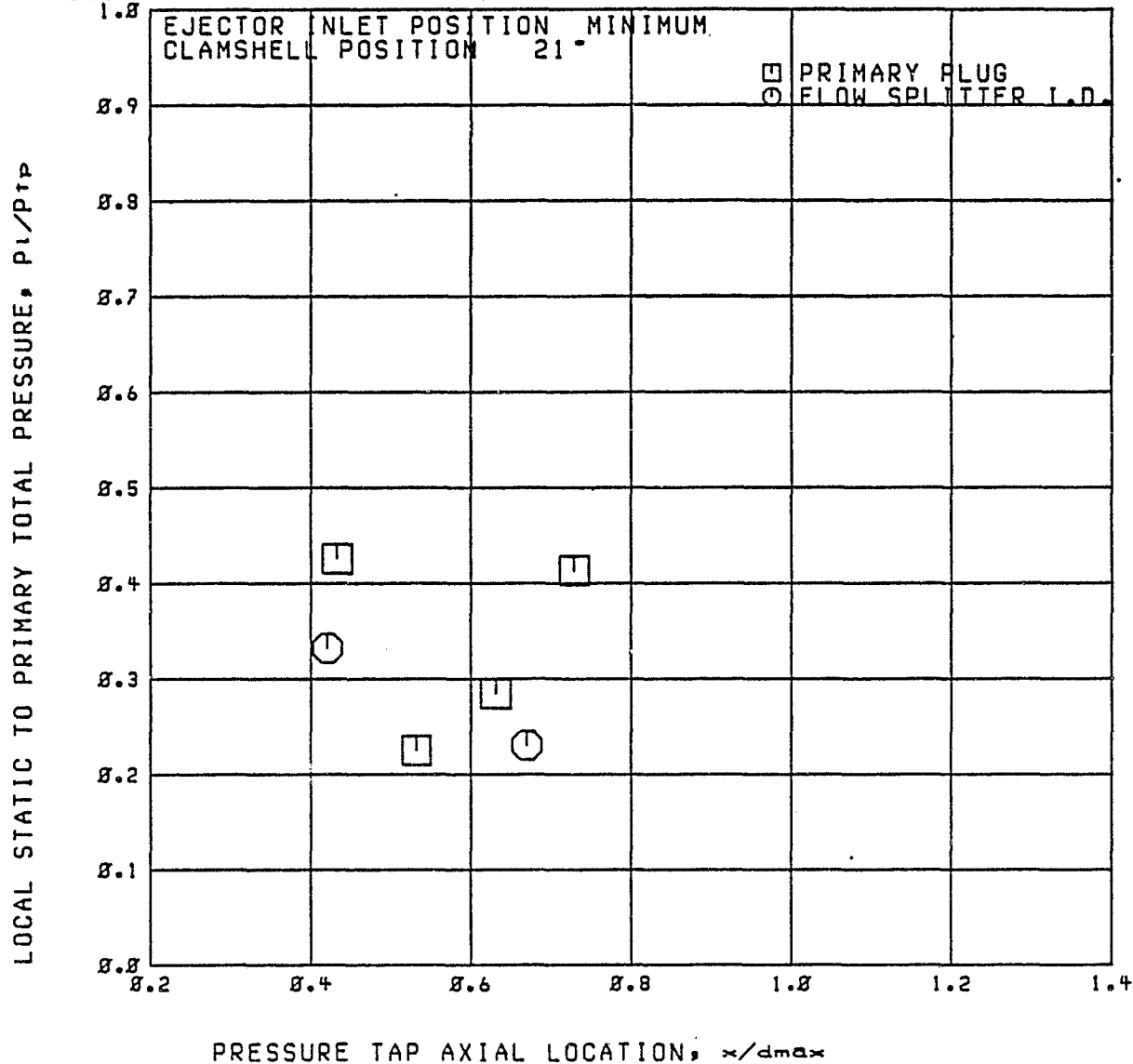
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 =$

4.511

$P_{tr}/P_{tp} = 1.98$



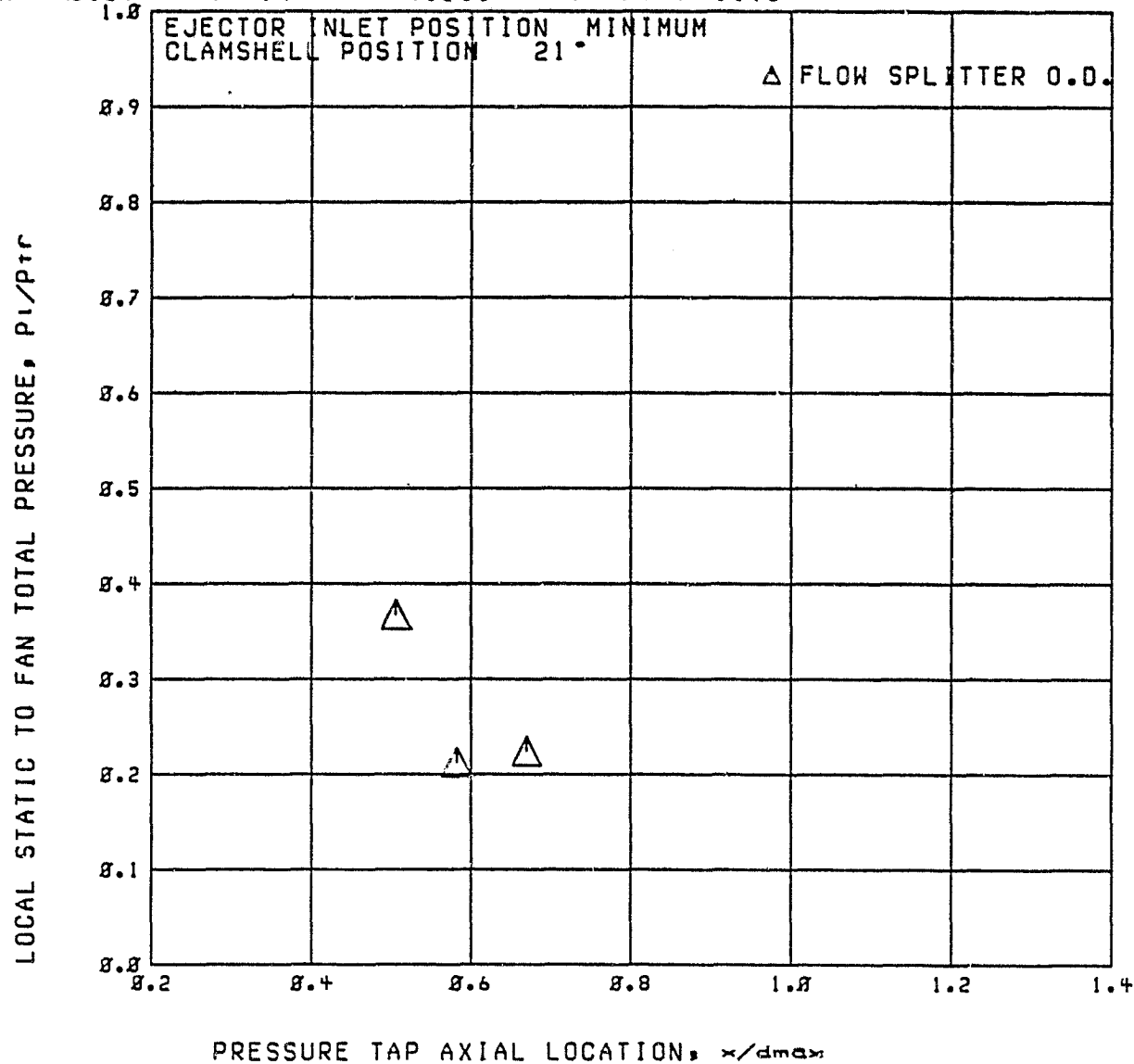
RUN 32

C2

RDG=1814

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$   $P_{tr}/P_0 = 4.511$   $P_{tr}/P_{tp} = 1.98$



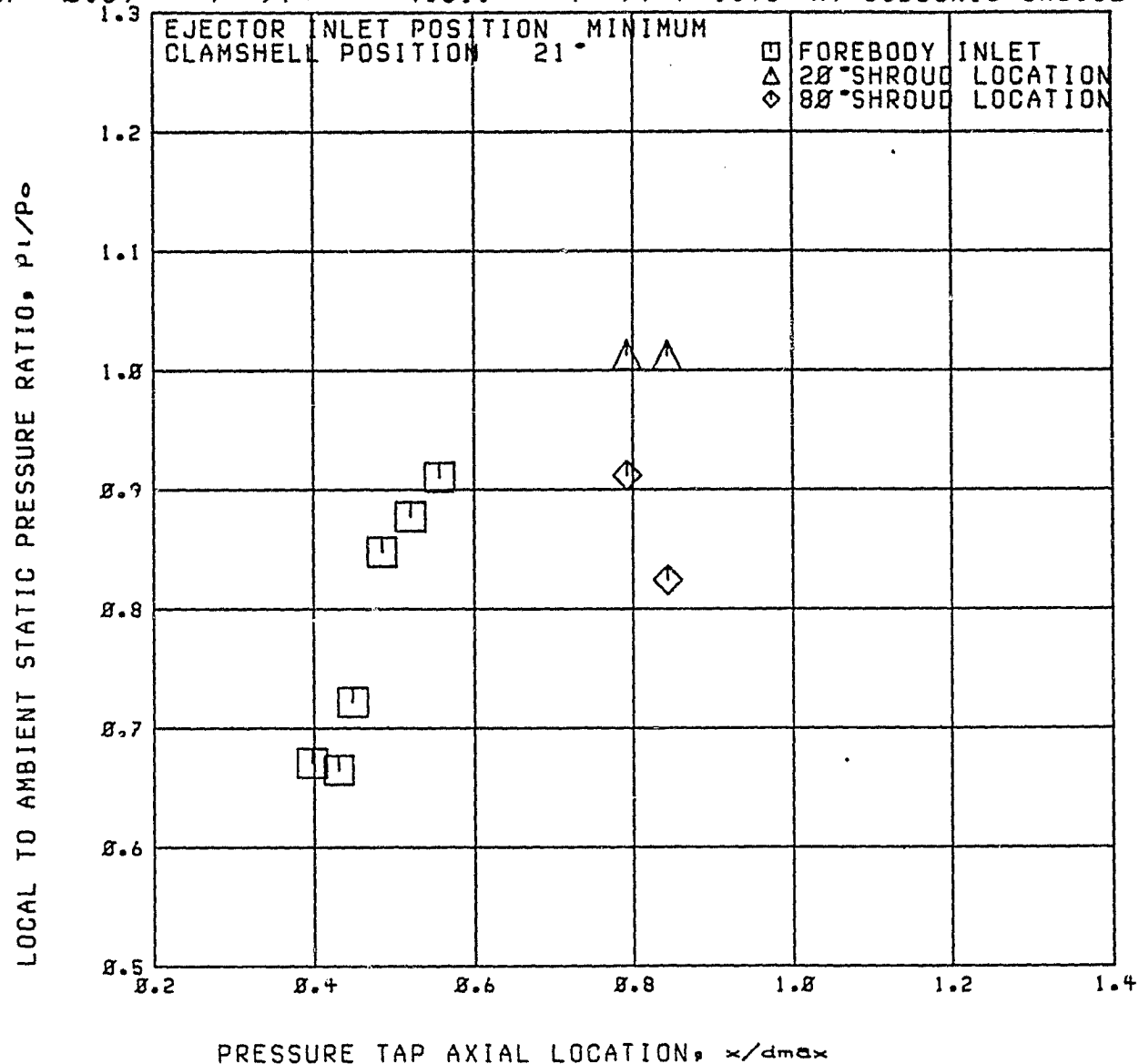
RUN 32

RDG=1814

C2

EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 4.511$   $P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE





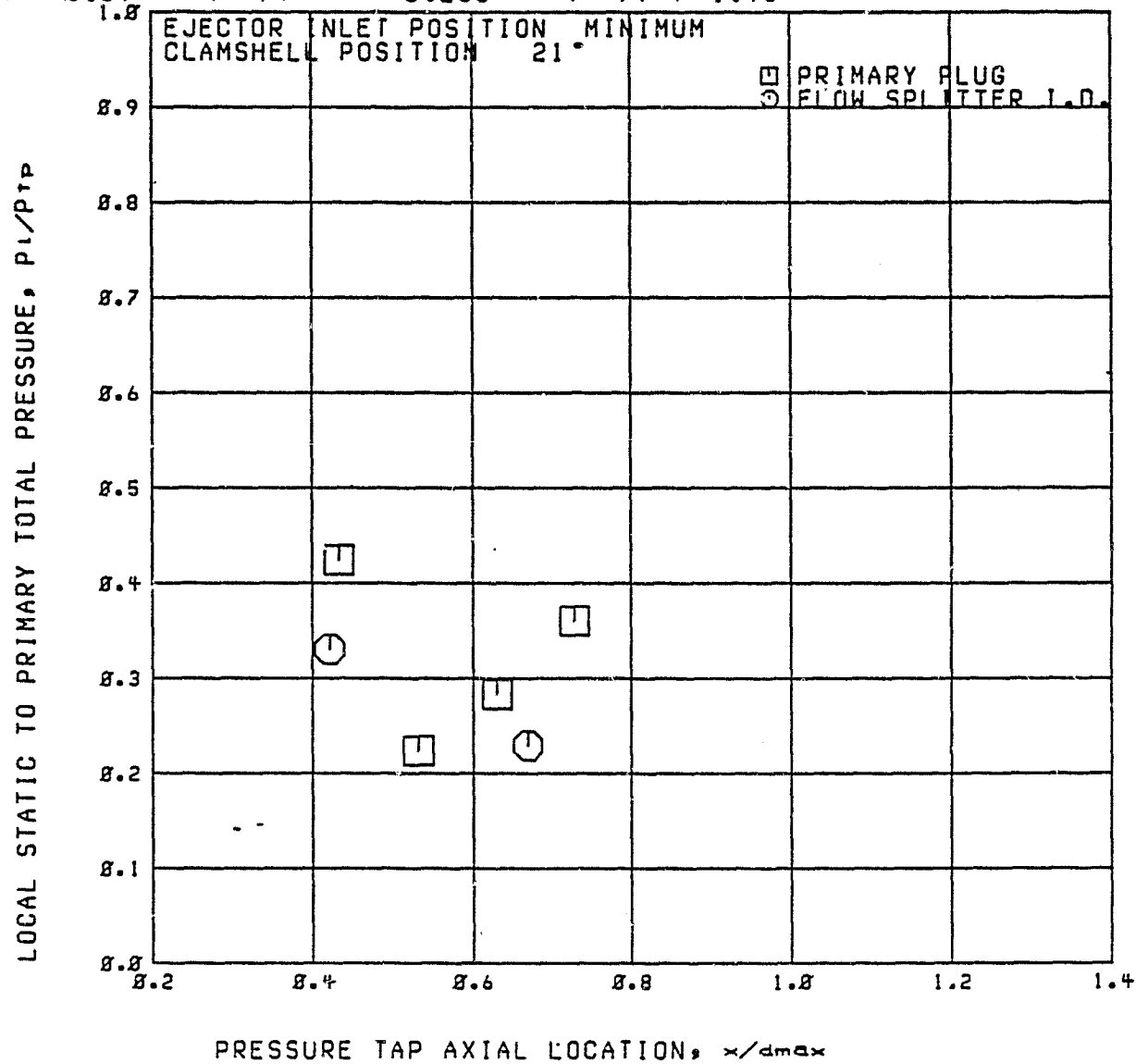
RUN 32

C2

RDG=1815

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$   $P_{tr}/P_o = 5.256$   $P_{tr}/P_{tp} = 1.96$



Run 32

C2

RDG=1815

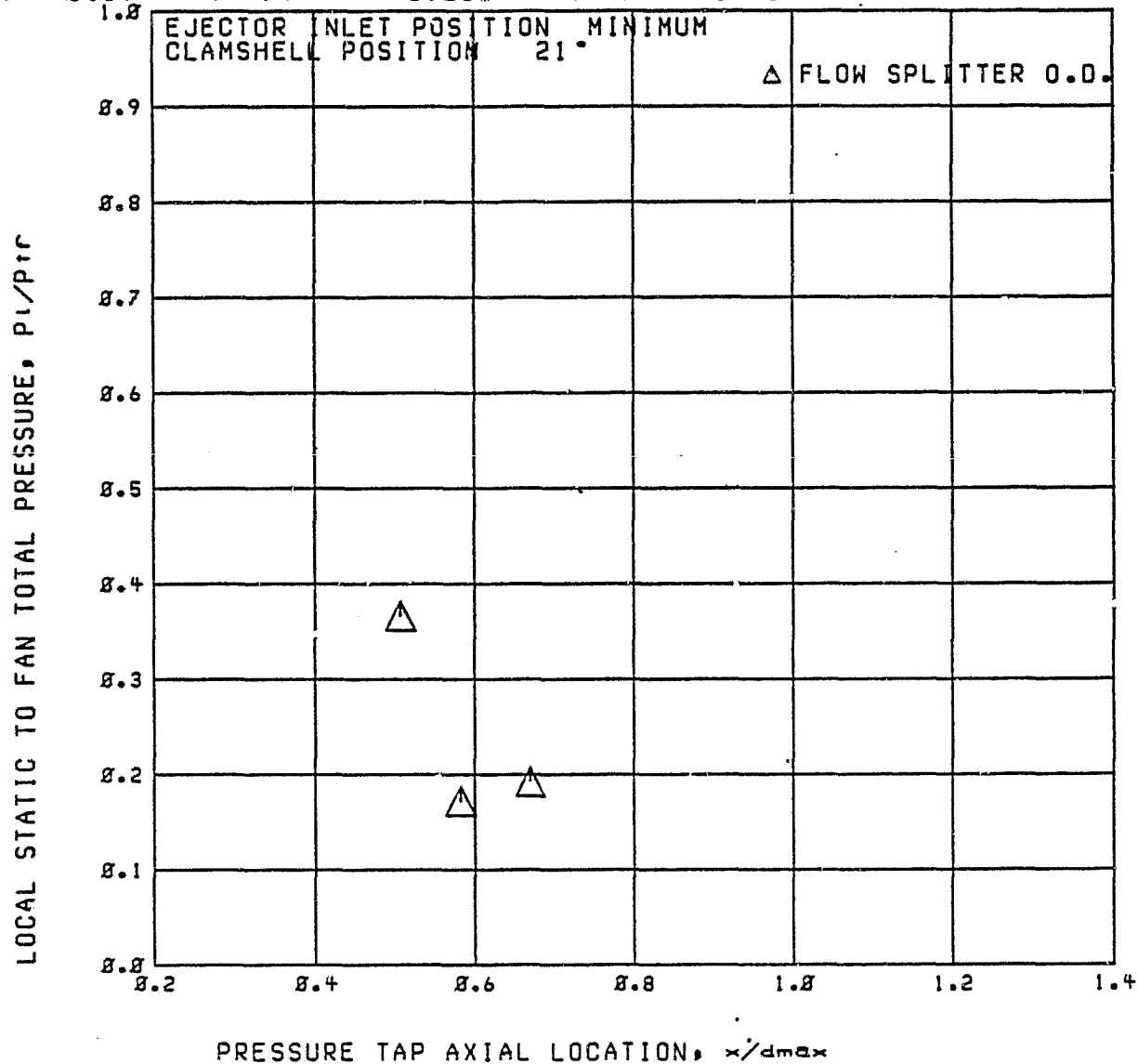
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 =$

5.256

$P_{tr}/P_{tp} = 1.96$



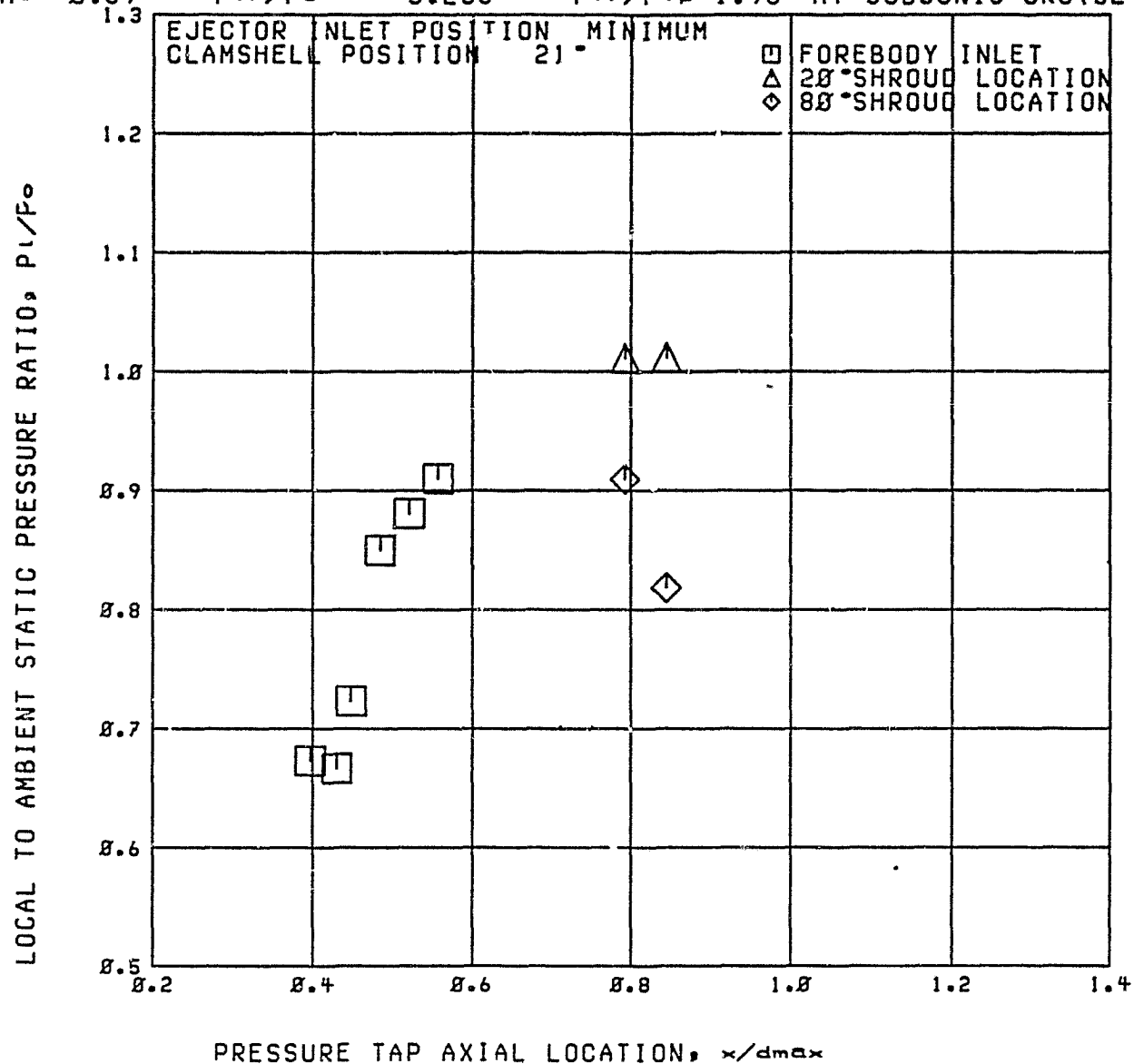
Run 32

RDG=1815

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 5.256$   $P_{tr}/P_{tp} = 1.96$  AT SUBSONIC CRUISE



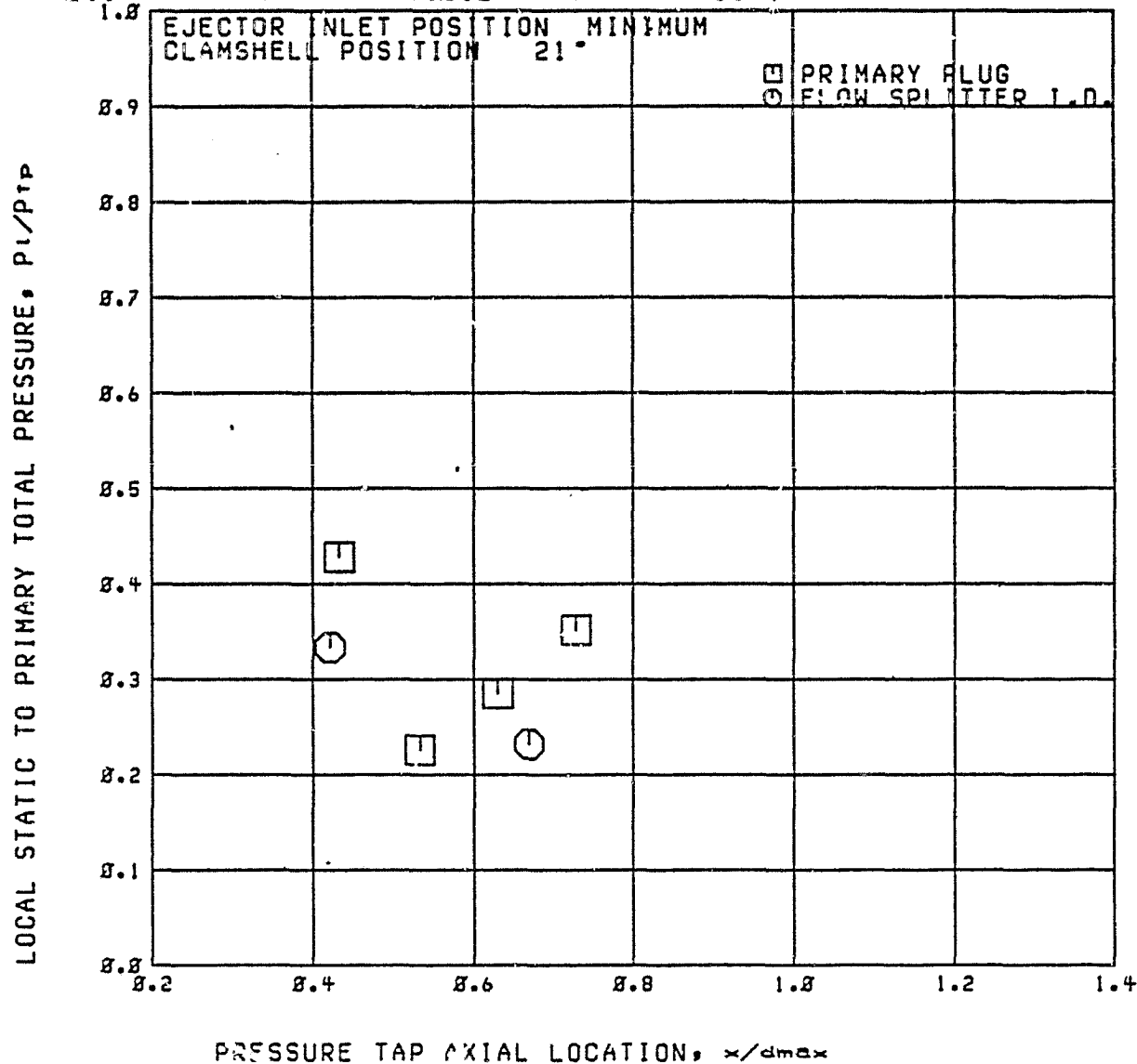
RUN 32

C2

RDG=1816

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$   $P_{tr}/P_0 = 6.012$   $P_{tr}/P_{tp} = 1.98$



RUN 32

C2

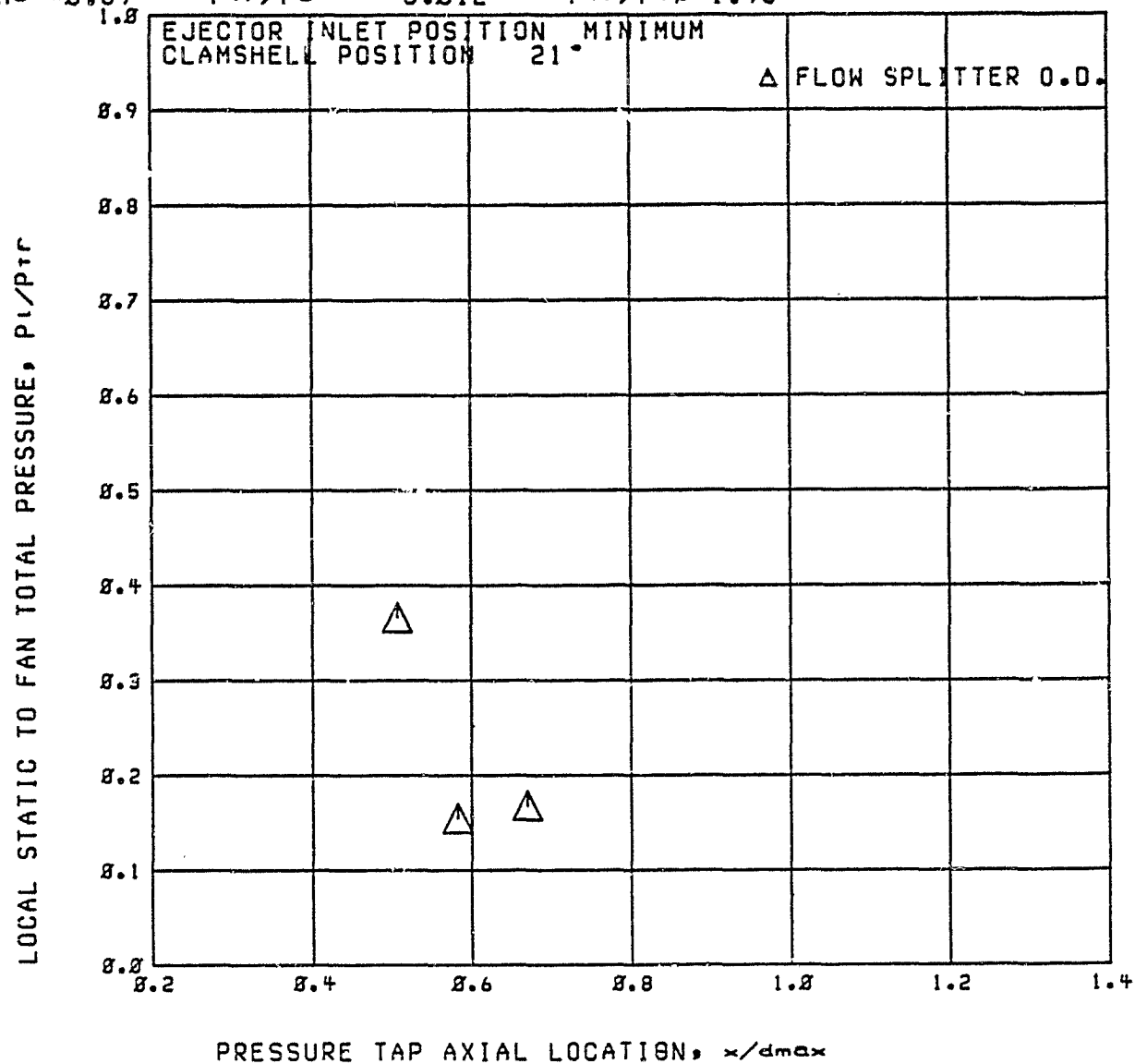
RDG=1816

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_{02} = 6.012$

$P_{tr}/P_{tp} = 1.98$



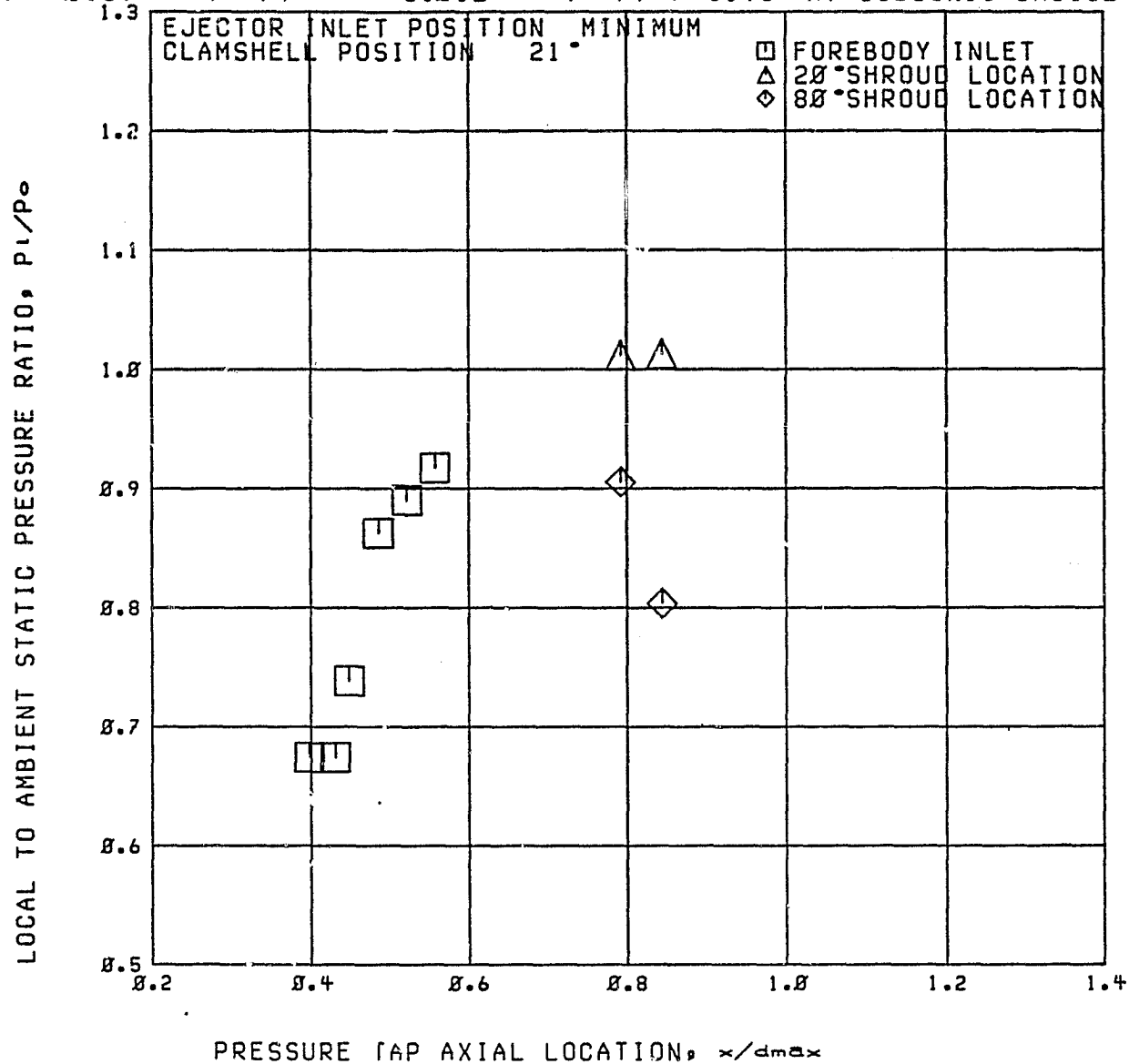
RUN 32

RDG=1816

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.89$   $P_{tr}/P_0 = 6.012$   $P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE



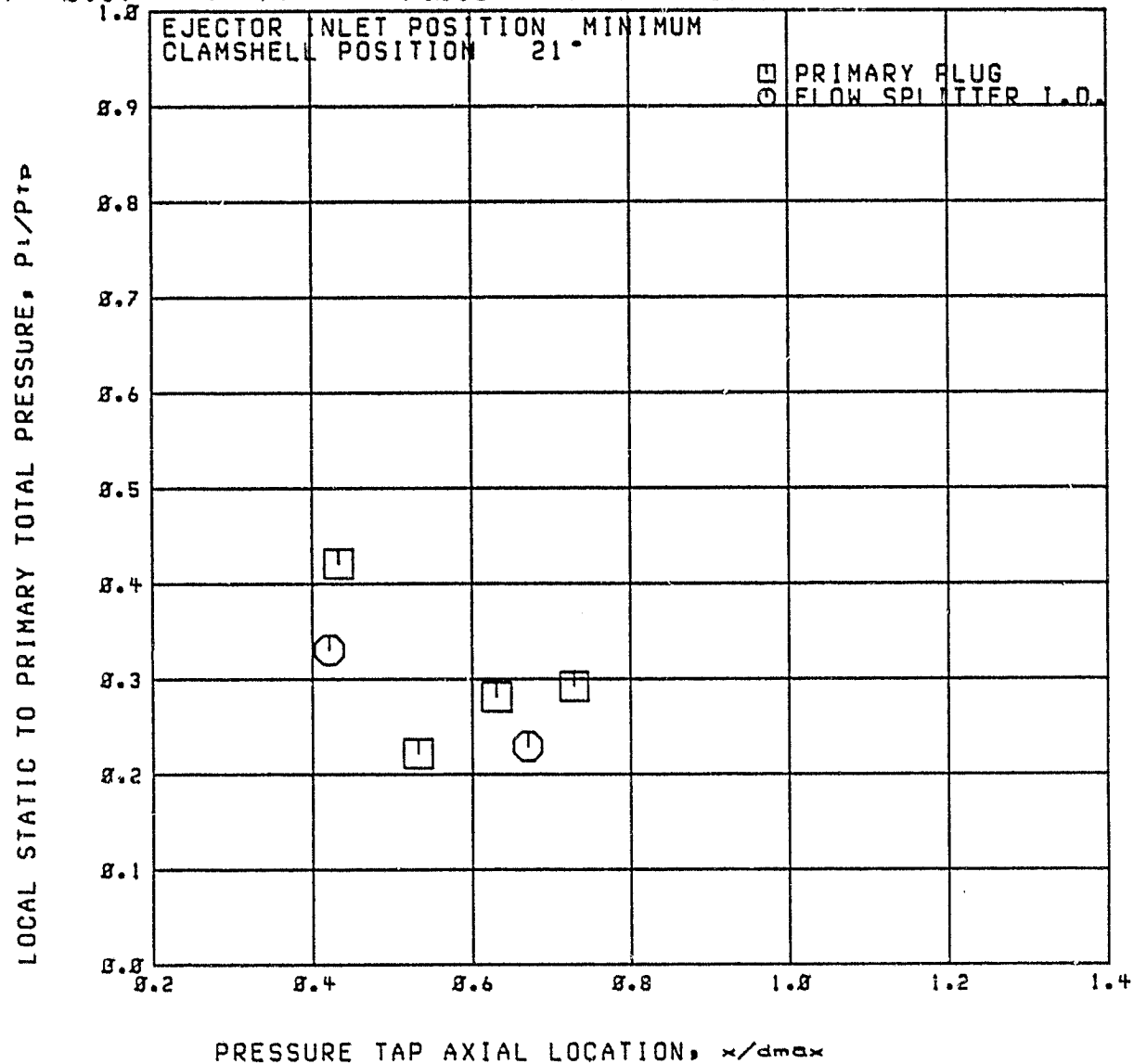
RUN 32

C2

RDG=1817

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$   $P_{tr}/P_0 = 7.815$   $P_{tr}/P_{trp} = 1.97$



RUN 32

C2

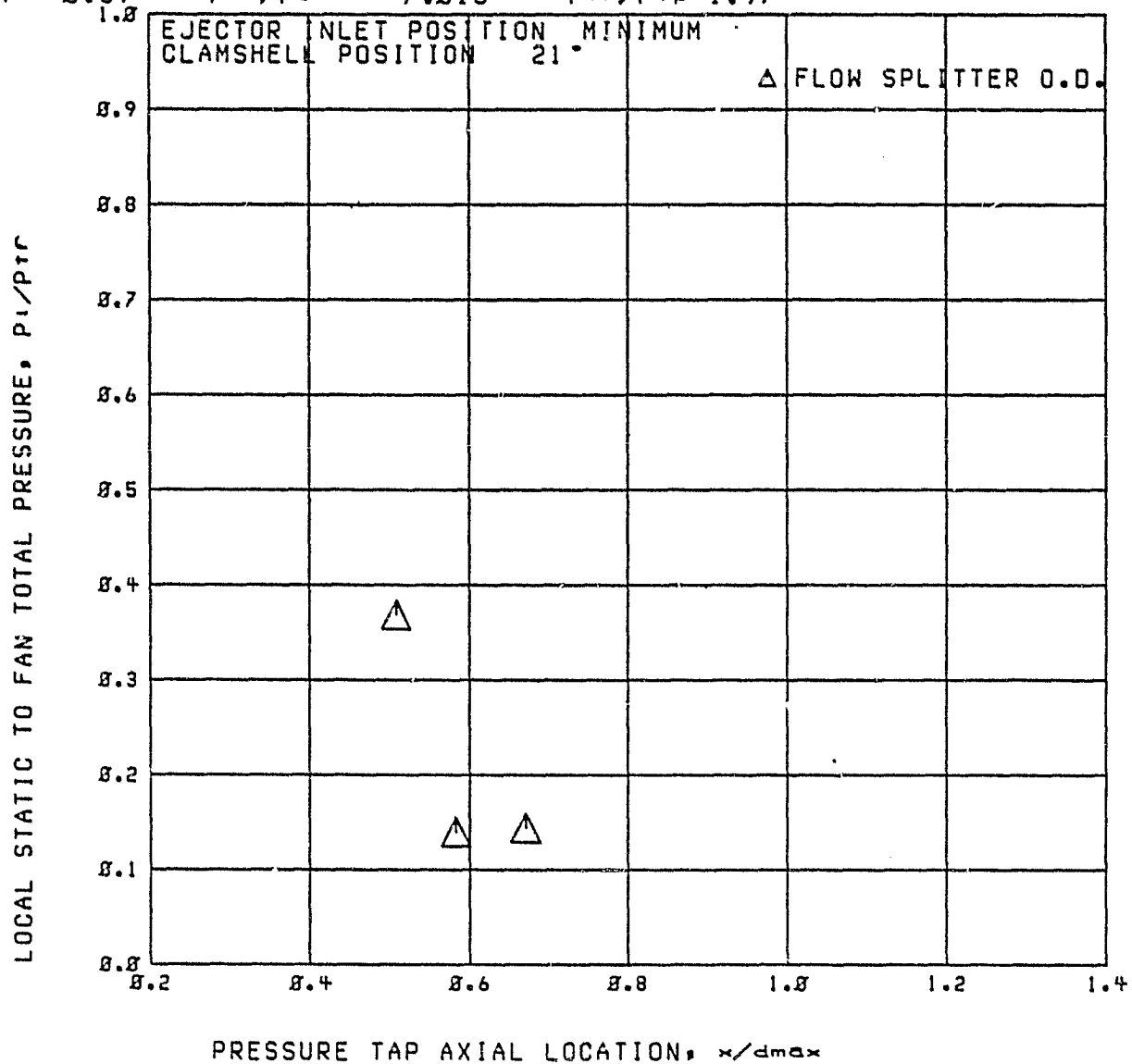
RDG=1817

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 = 7.815$

$P_{tr}/P_{tp} = 1.97$





RUN 32

RDG=1817

C2

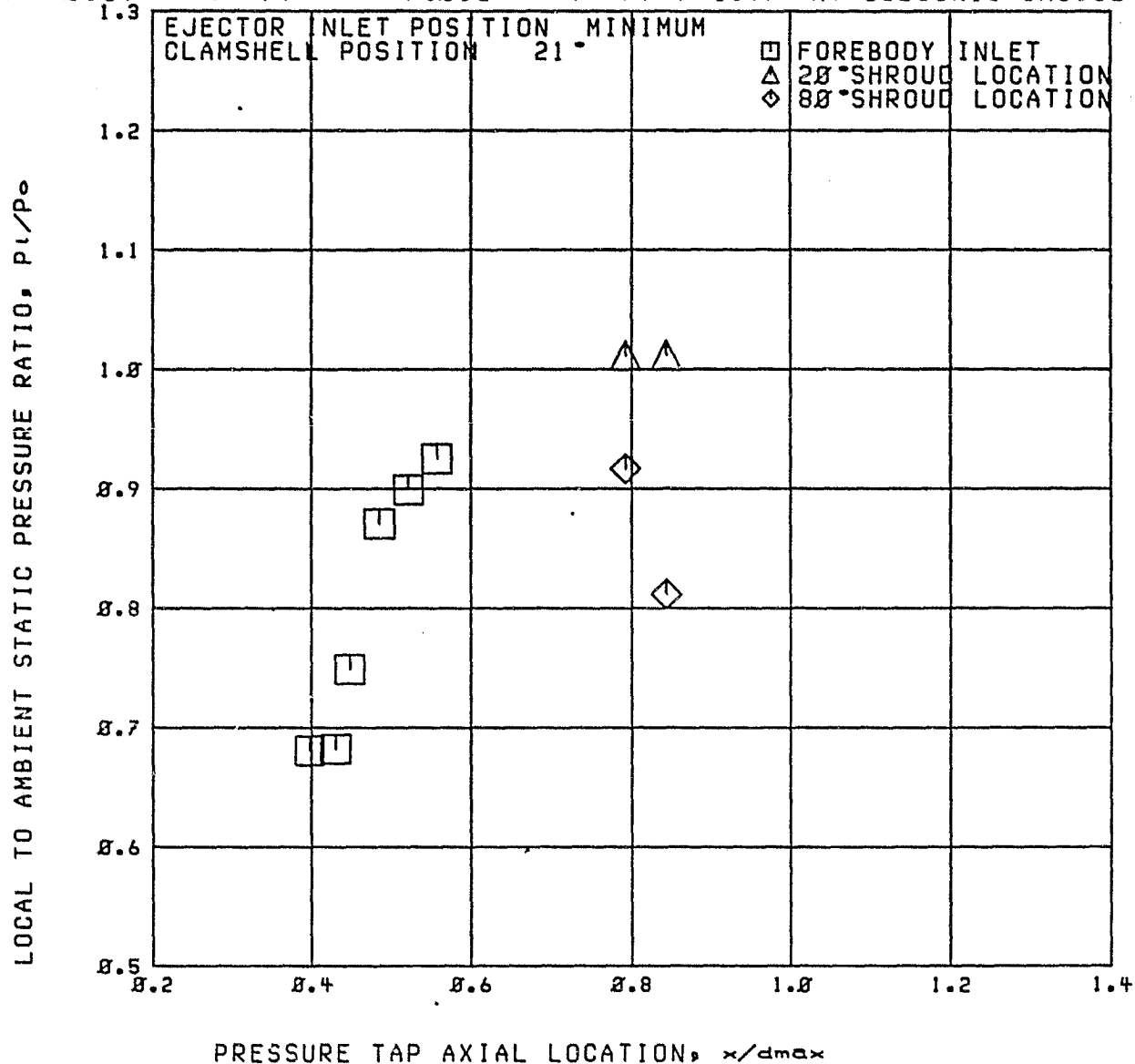
# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$

$P_{tr}/P_o = 7.015$

$P_{tr}/P_{tp} = 1.97$

AT SUBSONIC CRUISE



RDG 2224-2264

C2

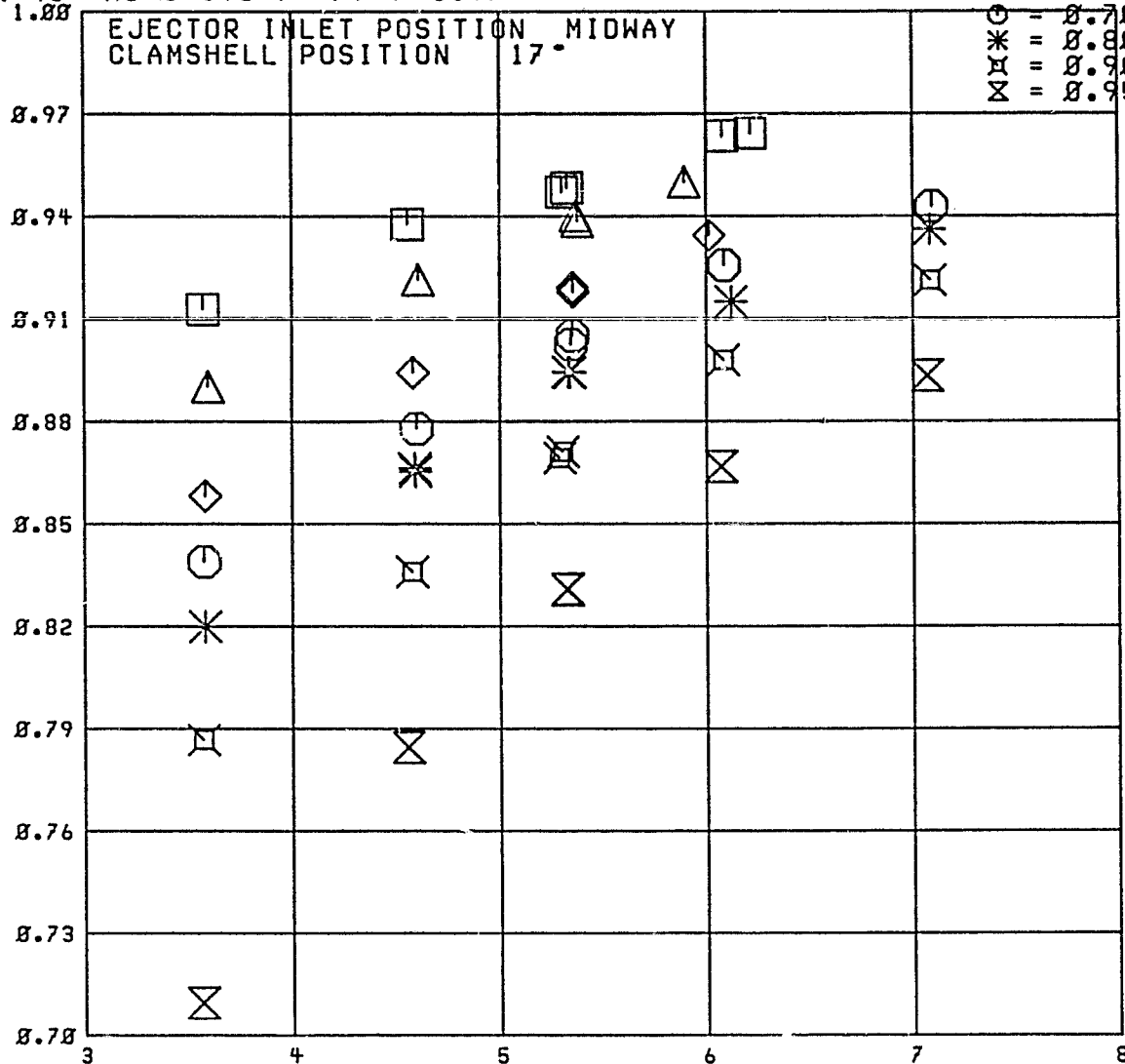
SUBSONIC CRUISE

RUN 45  $M_0 = 0.95$   $P_{tr}/P_{tp} = 1.97$

$M_0 =$

$\square = 0.8$   
 $\triangle = 0.836$   
 $\diamond = 0.856$   
 $\oplus = 0.878$   
 $\times = 0.888$   
 $\otimes = 0.908$   
 $\otimes = 0.95$

NOZZLE GROSS THRUST COEFFICIENT,  $CFPI$



FAN NOZZLE PRESSURE RATIO,  $PTF/P_0$

RDG. 2224-2264

C2

SUBSONIC CRUISE

$M_0 =$

RUN 45  $M_0 = 0.95$   $P_{tr}/P_{tp} = 1.97$

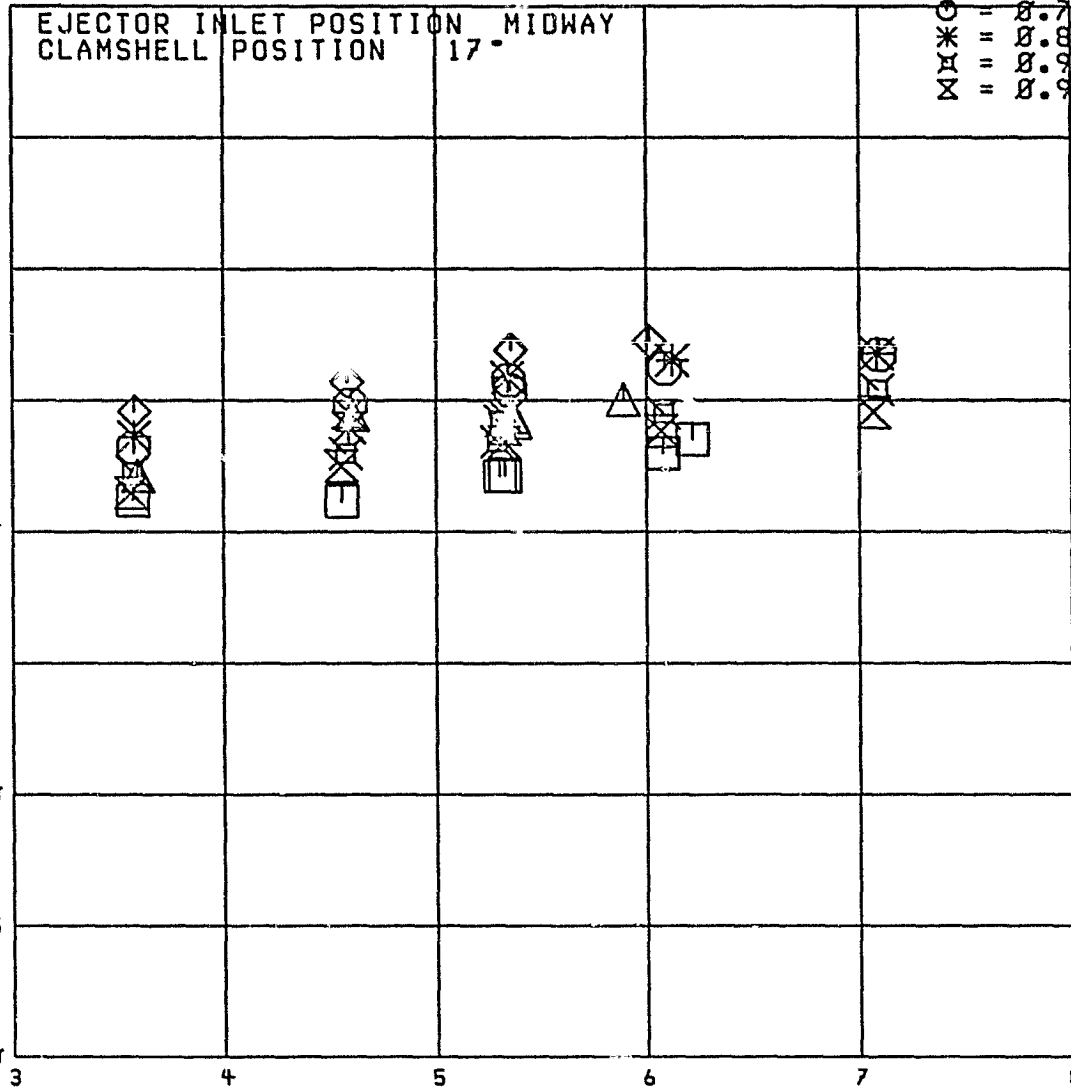
.980

EJECTOR INLET POSITION MIDWAY  
CLAMSHELL POSITION 17°

□ = 0.8  
△ = 0.36  
◇ = 0.56  
○ = 0.70  
\* = 0.80  
+ = 0.90  
X = 0.95

FAN-NOZZLE FLOW COEFFICIENT, CDF

.975  
.970  
.965  
.960  
.955  
.950  
.945  
.940



FAN NOZZLE PRESSURE RATIO, PTF/PO

RDG 2224-2264

C2

SUBSONIC CRUISE

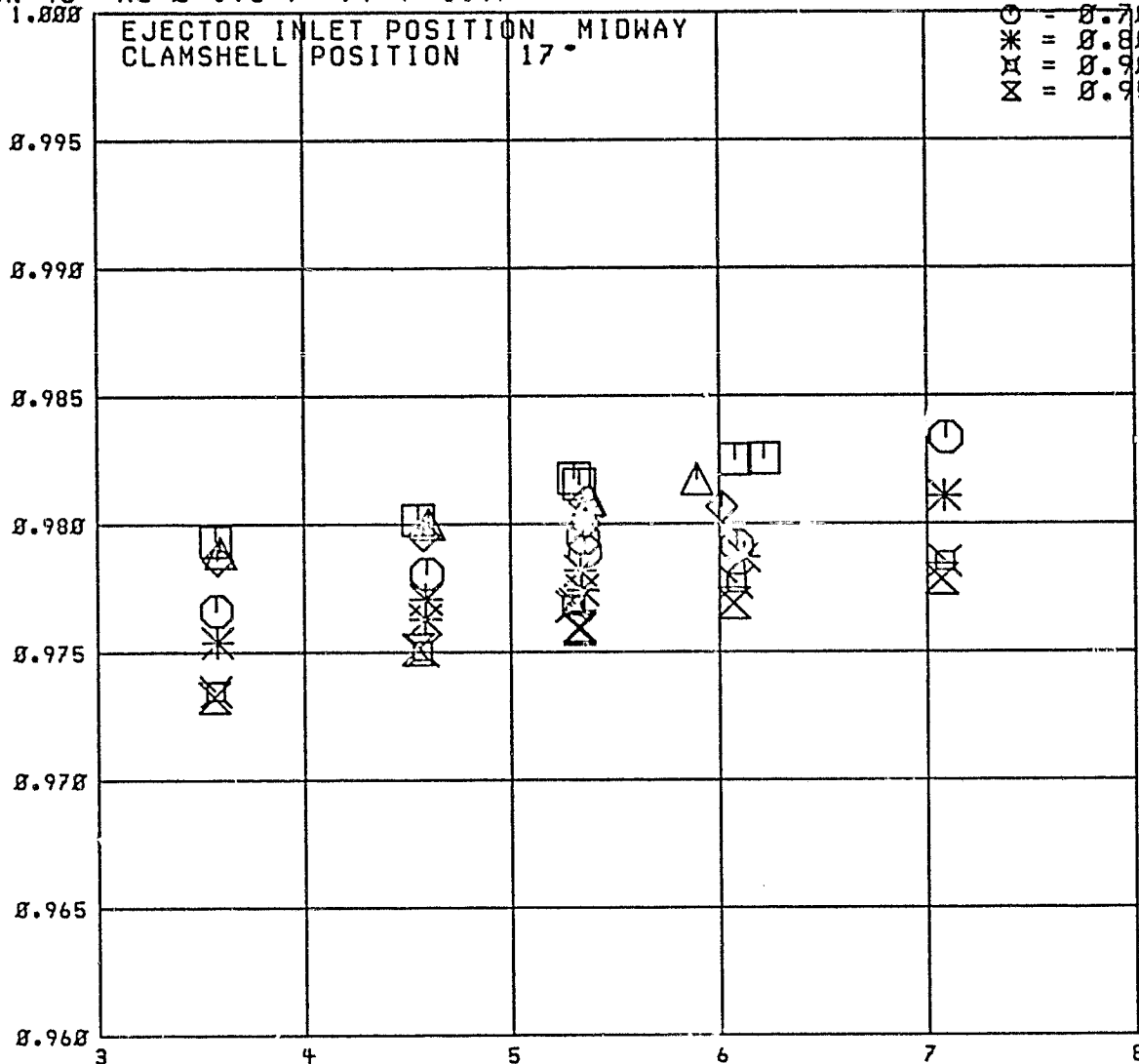
RUN 45  $M_0 = 0.95$   $P_{tr}/P_{tp} = 1.97$

1.000

$M_0 =$

$\square = 0.8$   
 $\triangle = 0.86$   
 $\diamond = 0.88$   
 $\circ = 0.90$   
 $* = 0.92$   
 $\times = 0.94$   
 $\otimes = 0.95$

PRIMARY-NOZZLE FLOW COEFFICIENT, CDP



FAN NOZZLE PRESSURE RATIO, PTF/PO

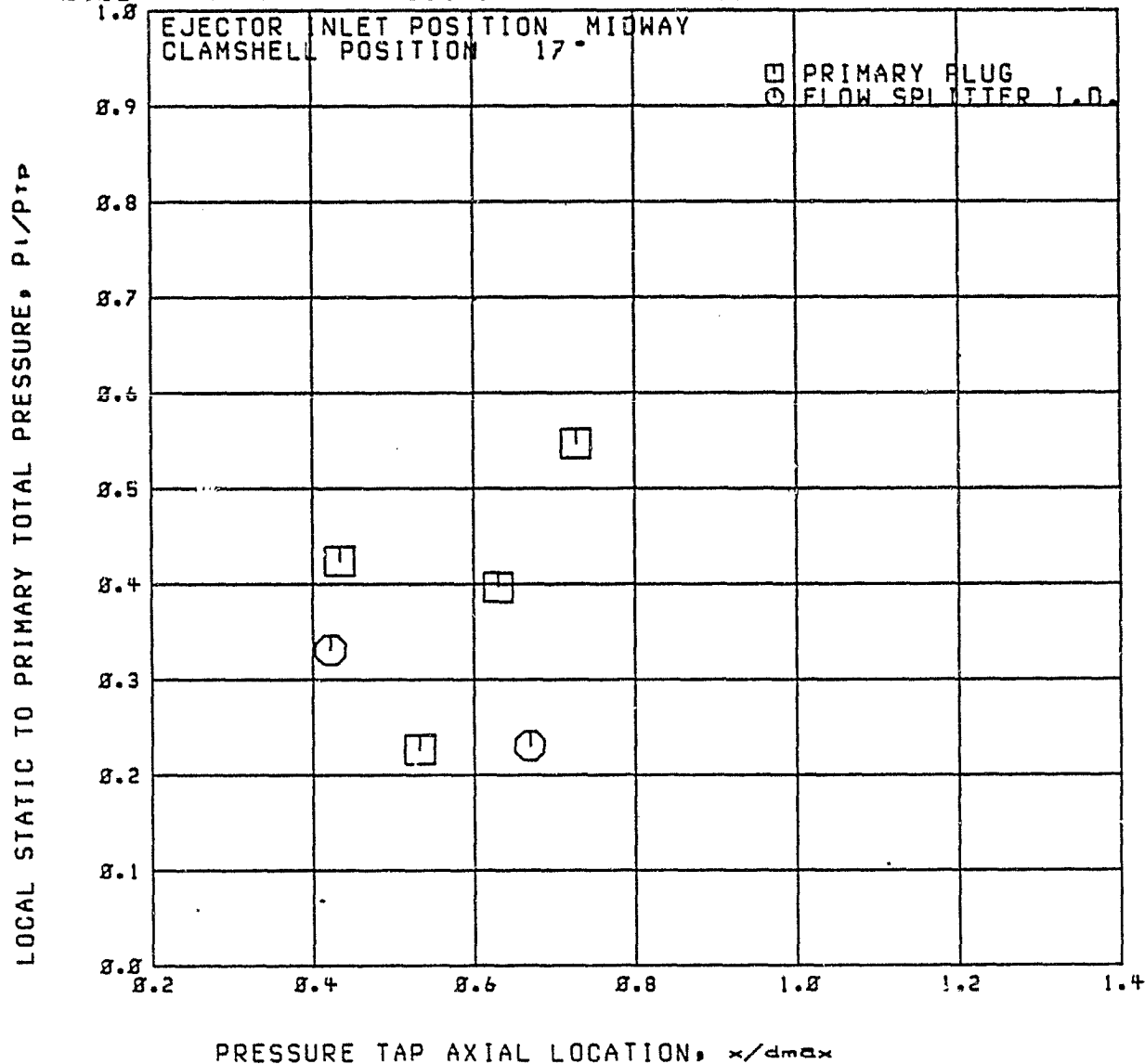
RUN 45

C2

RDG=2224

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.82$   $P_{tr}/P_0 = 3.573$   $P_{tr}/P_{tp} = 1.96$



RUN 45

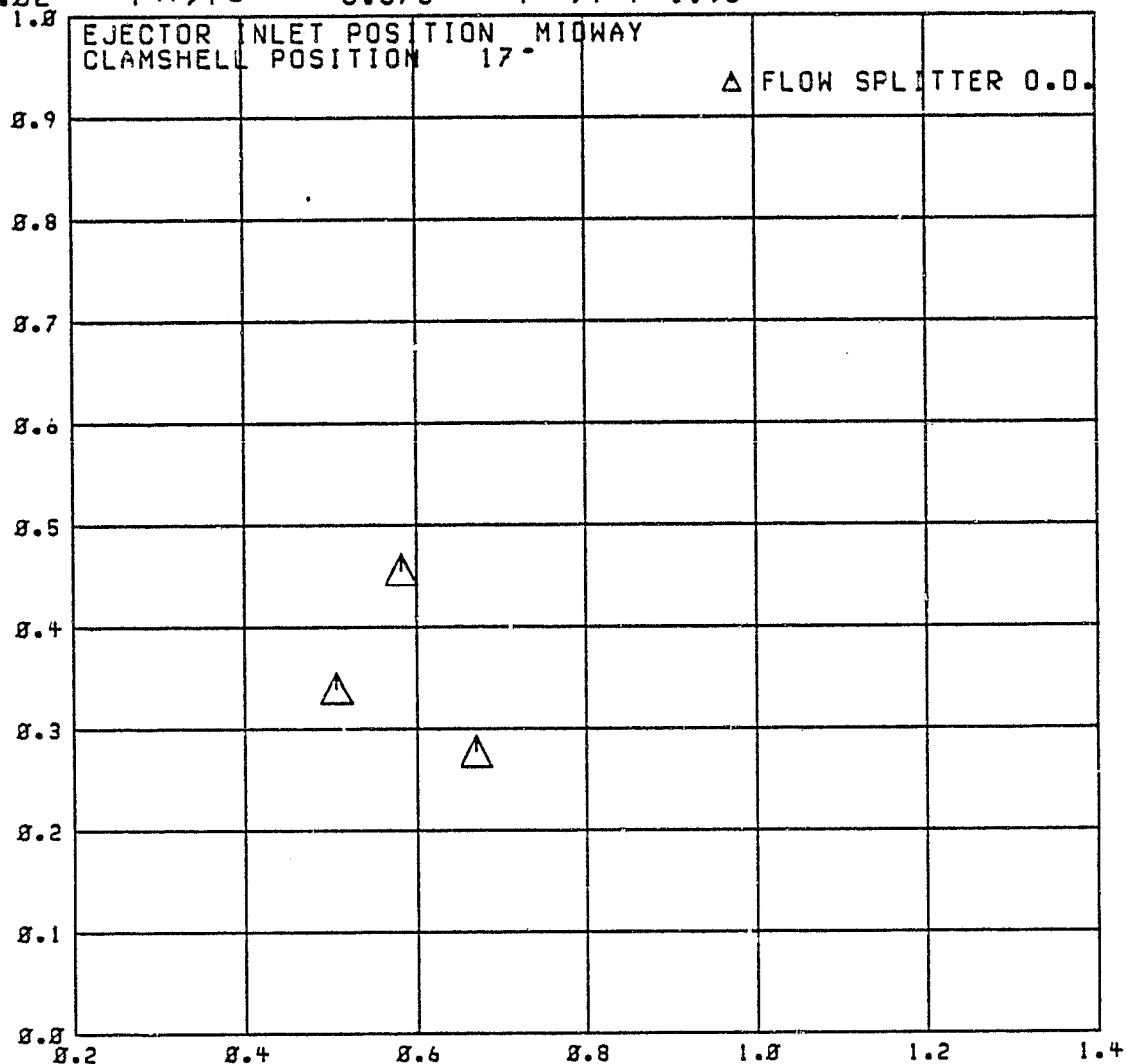
RDG=2224

G2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.82$   $P_{tr}/P_0 = 3.573$   $P_{tr}/P_{tp} = 1.96$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

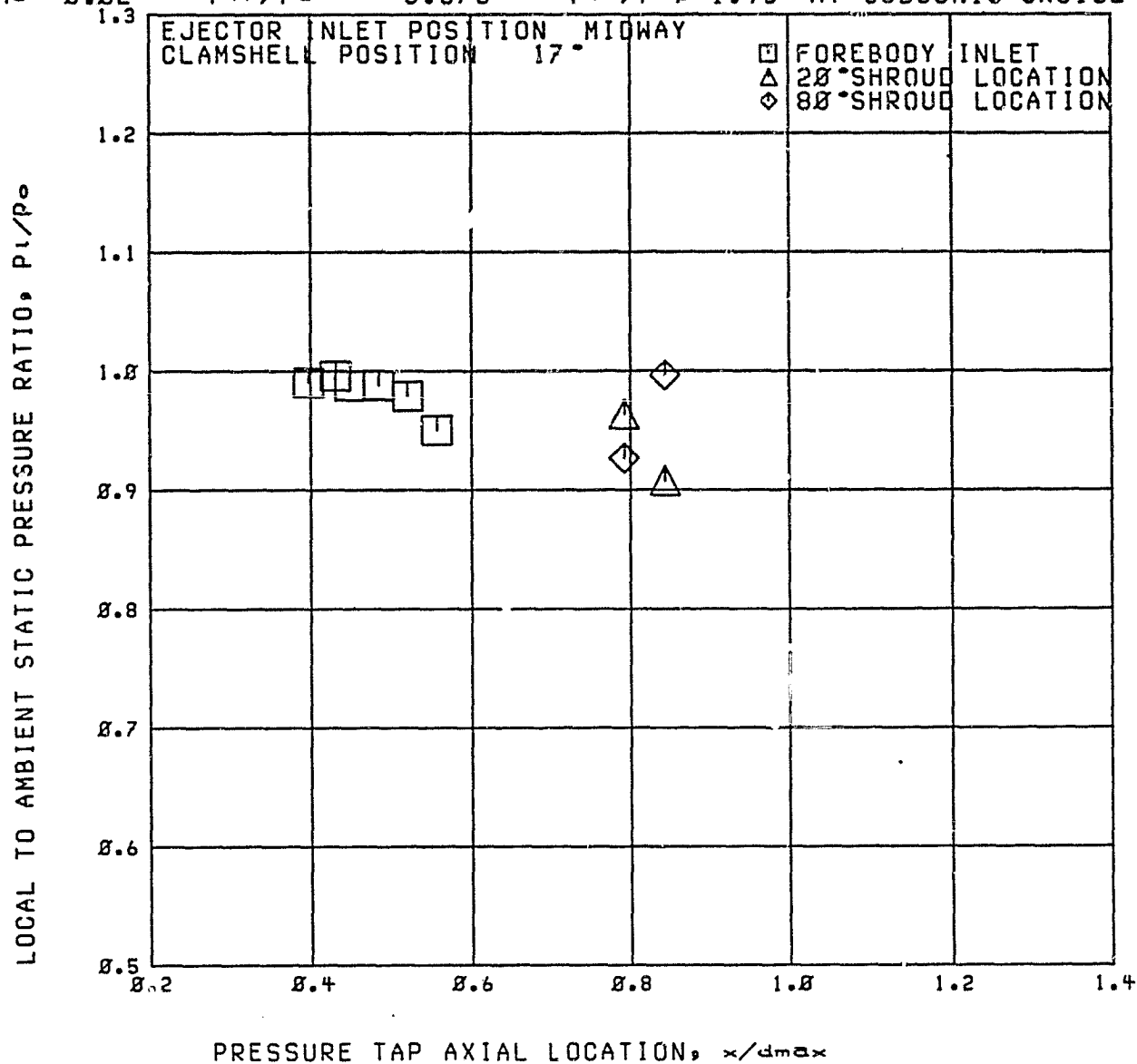
RUN 45

C2

RDG=2224

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.02$   $P_{tr}/P_o = 3.573$   $P_{tr}/P_{tp} = 1.96$  AT SUBSONIC CRUISE



RUN 45

C2

RDG=2225

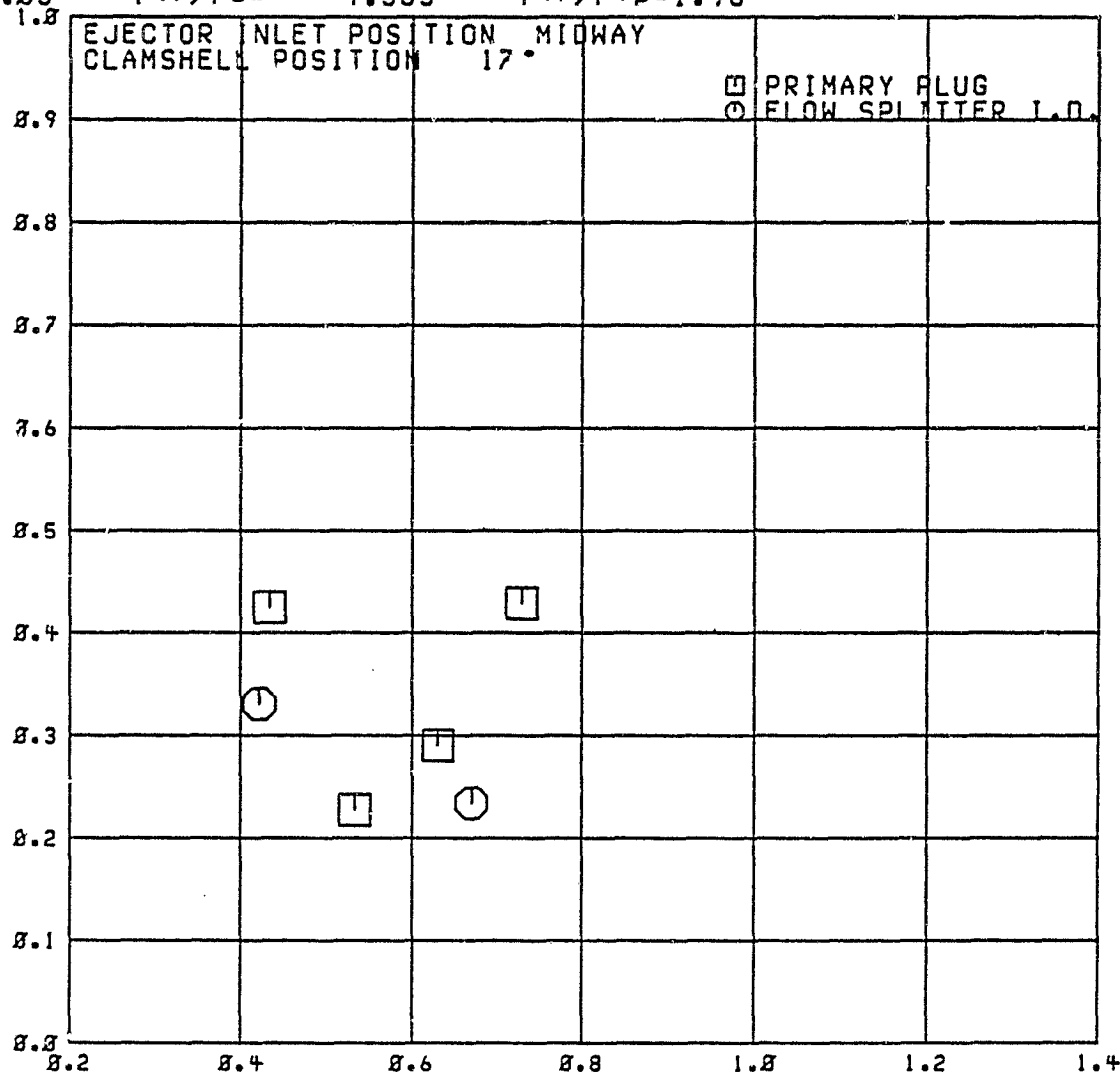
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.83$

$P_{tr}/P_{02} = 4.555$

$P_{tr}/P_{tp} = 1.96$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$



RUN 45

RDG=2225

C2

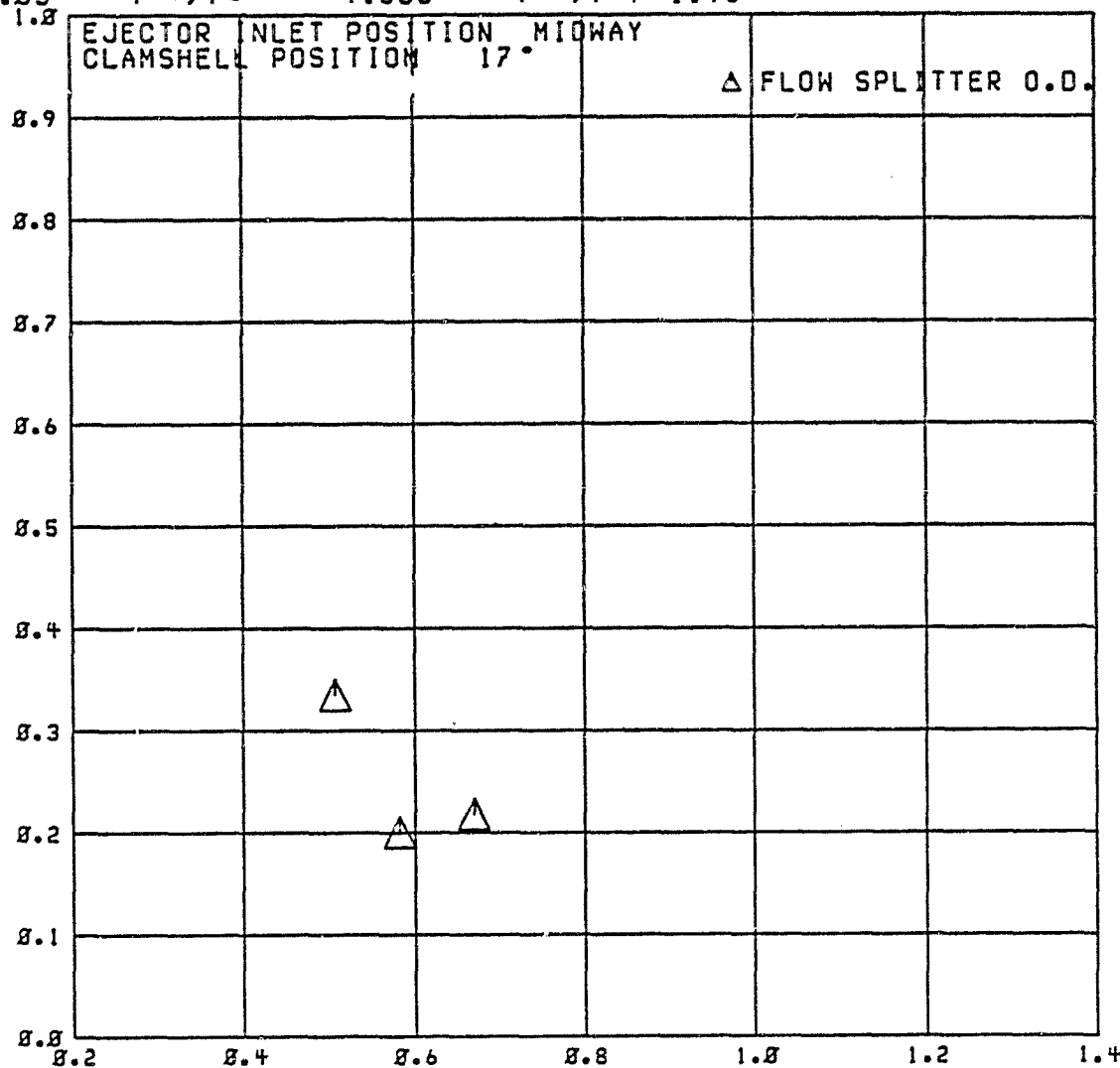
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.83$

$P_{tr}/P_{02} = 4.555$

$P_{tr}/P_{tp} = 1.96$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_t/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

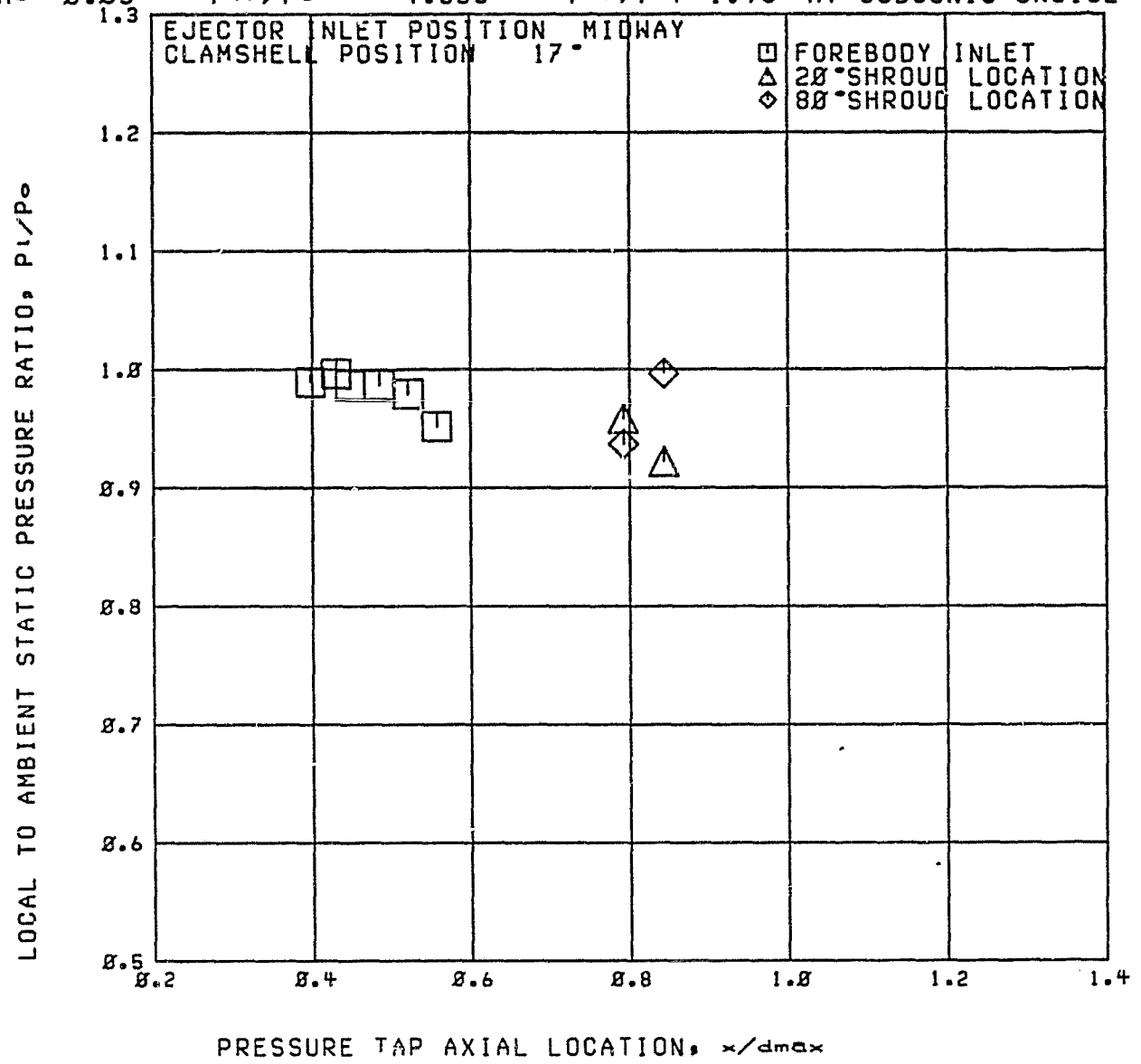
RUN 45

RDG=2225

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.03$      $P_{tr}/P_o = 4.555$      $P_{tr}/P_{tp} = 1.96$  AT SUBSONIC CRUISE



RUN 45

RDG=2226

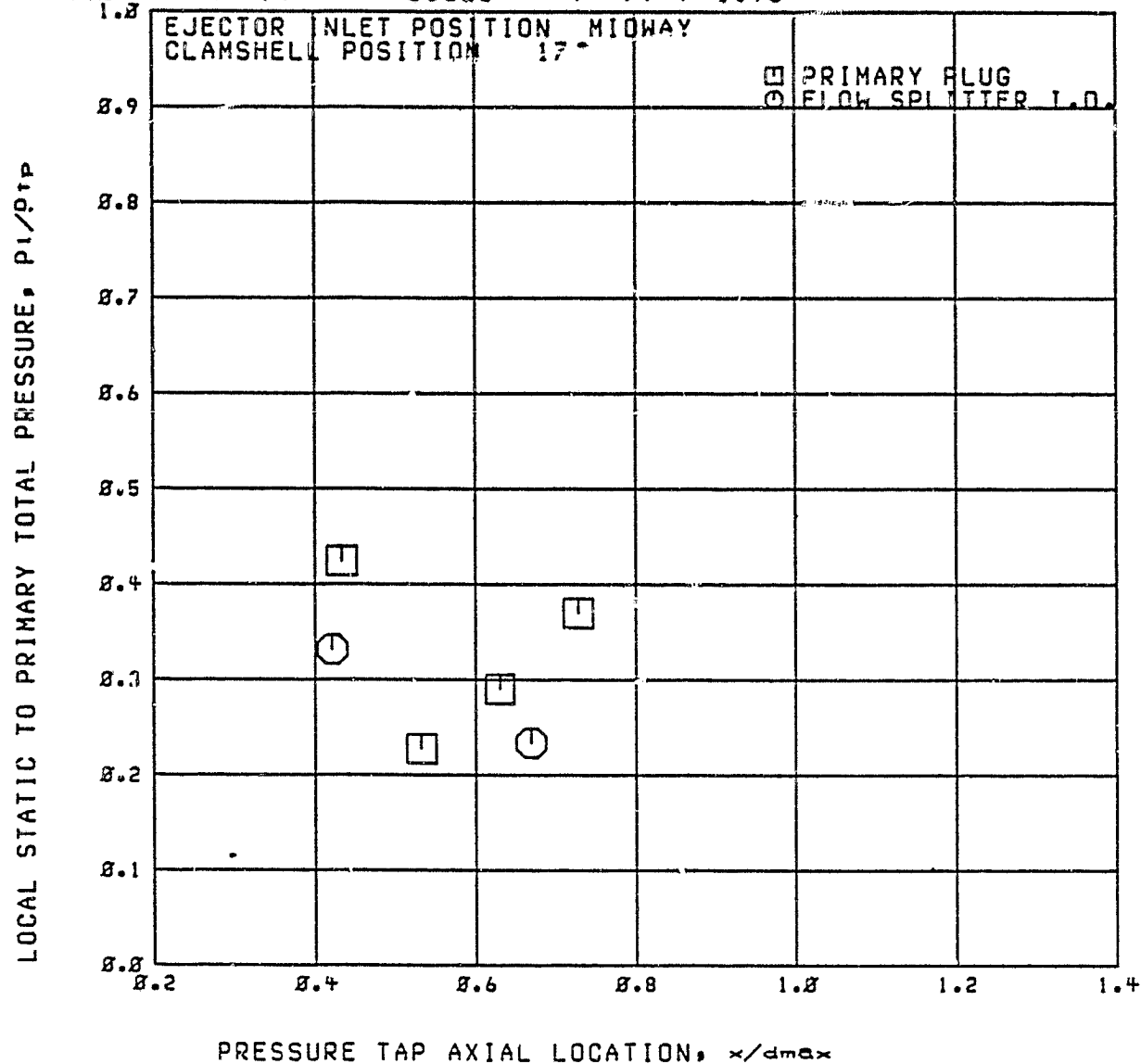
C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.84$

$P_{tr}/P_o = 5.326$

$P_{tr}/P_{tp} = 1.98$



RUN 45

C2

RDG=2226

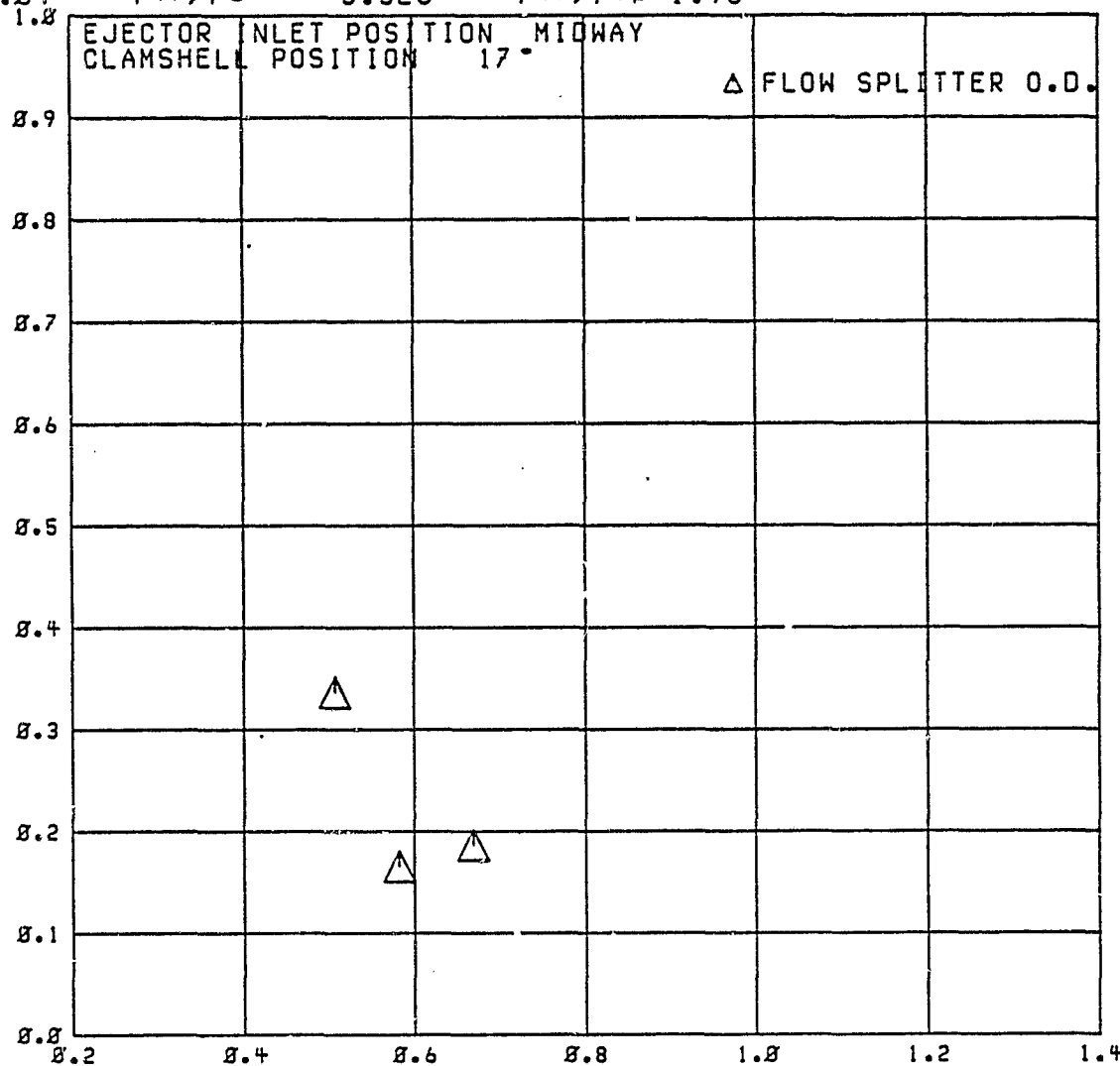
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.84$

$P_{tr}/P_0 = 5.326$

$P_{tr}/P_{tp} = 1.98$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_l/P_{tr}$



EJECTOR INLET POSITION MIDWAY  
CLAMSHELL POSITION 17°

Δ FLOW SPLITTER O.D.

PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

Run 45

RDG=2226

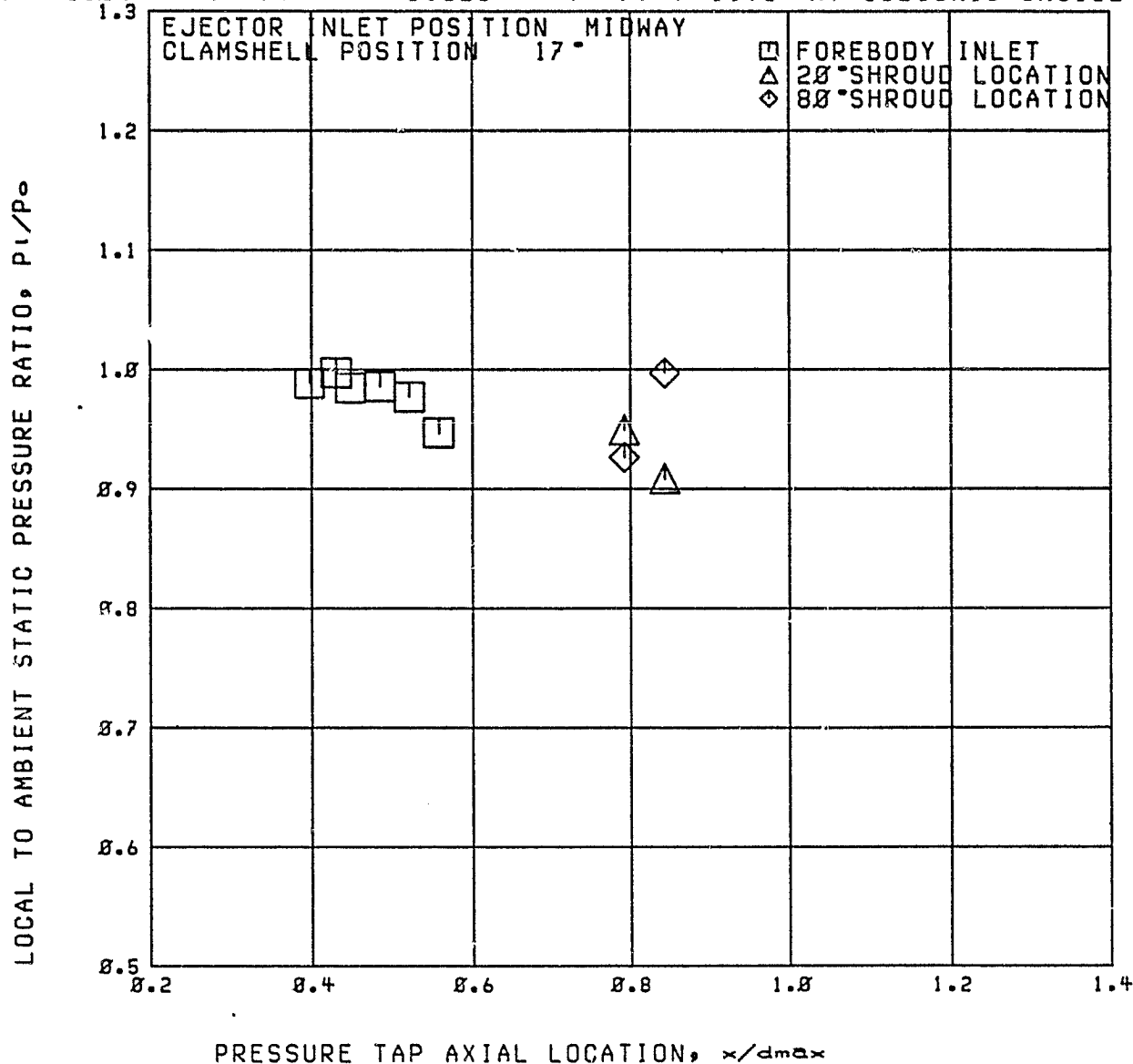
C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.84$

$P_{tr}/P_o = 5.326$

$P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE



RUN 45

C2

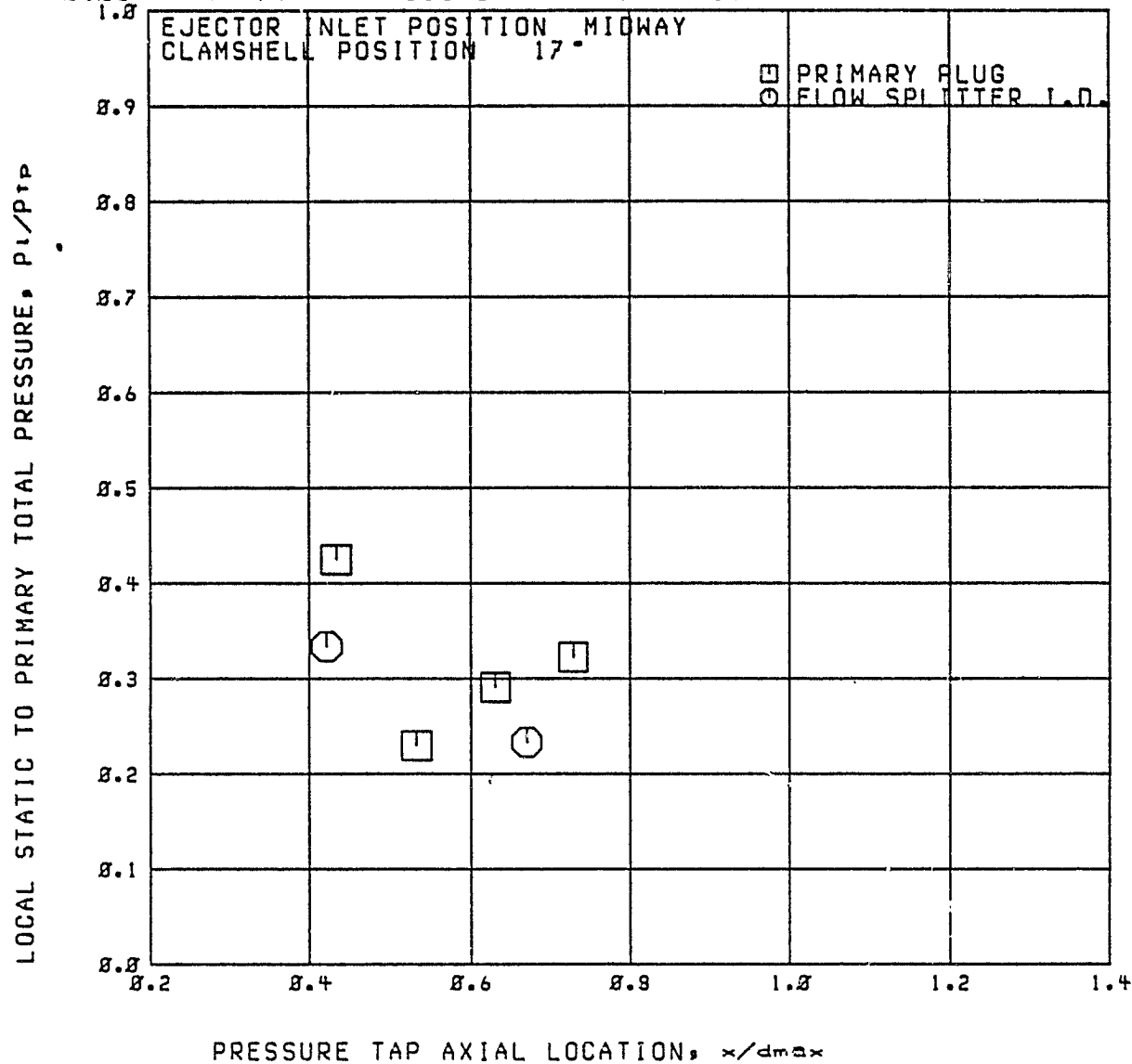
RDG=2227

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.05$

$P_{tr}/P_0 = 6.078$

$P_{tr}/P_{tp} = 1.97$



RUN 45

C2

RDG=2227

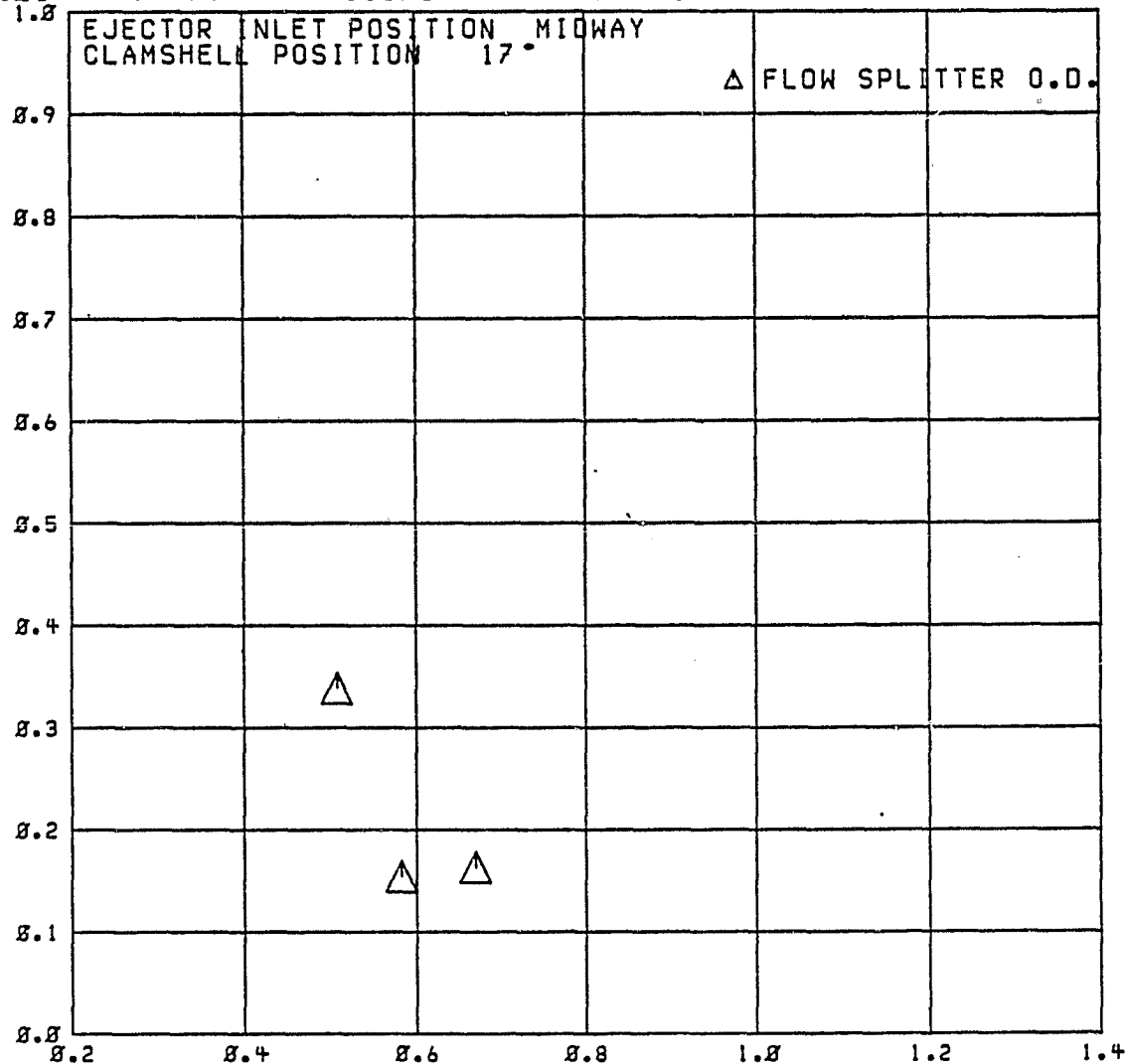
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.05$

$P_{tr}/P_0 = 6.878$

$P_{tr}/P_{tp} = 1.97$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 45

RDG=2227

C2

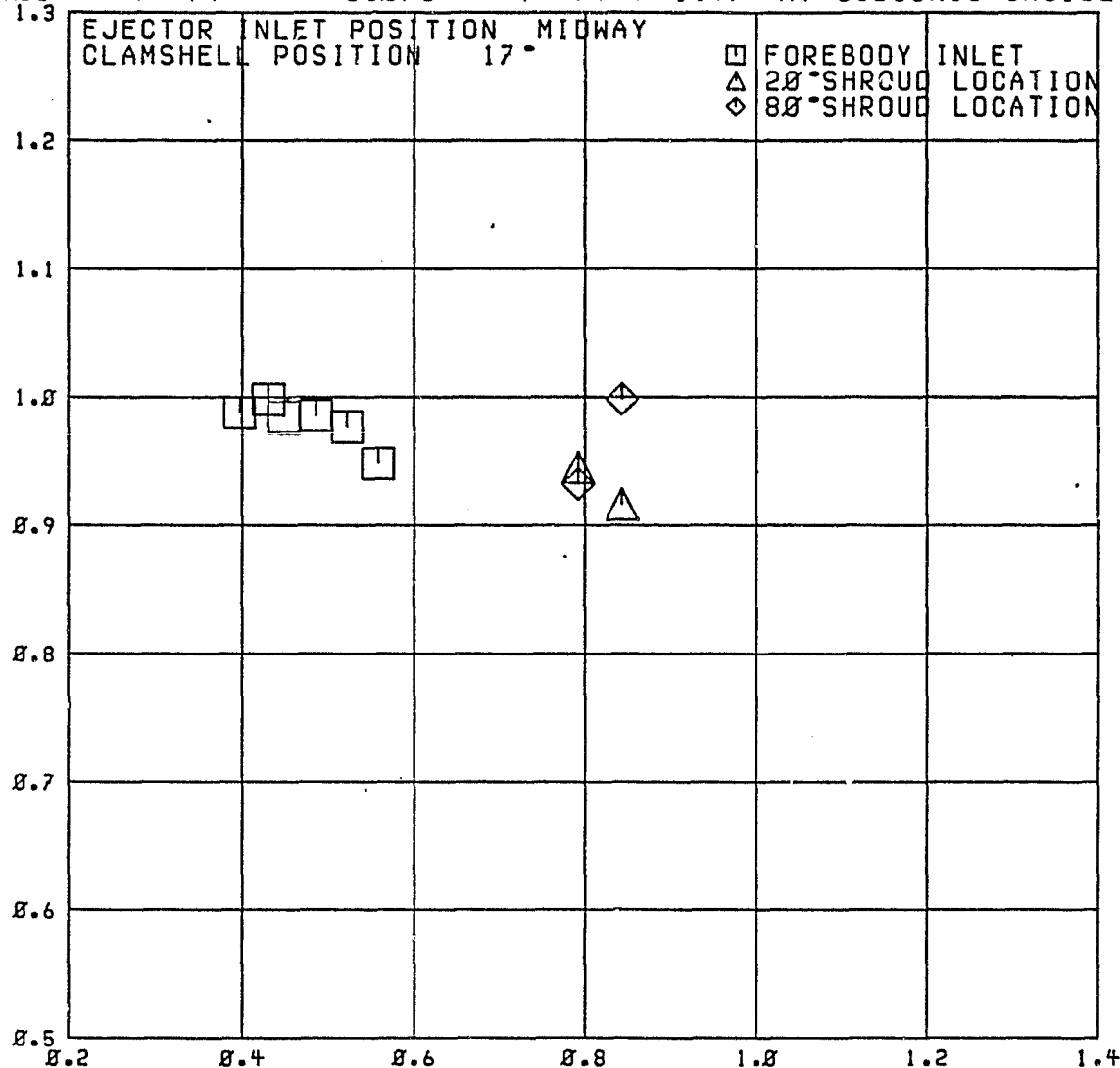
# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.05$

$P_{tr}/P_o = 6.078$

$P_{tr}/P_{tr} = 1.97$  AT SUBSONIC CRUISE

LOCAL TO AMBIENT STATIC PRESSURE RATIO,  $P_i/P_o$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$



RUN 45

C2

RDG=2228

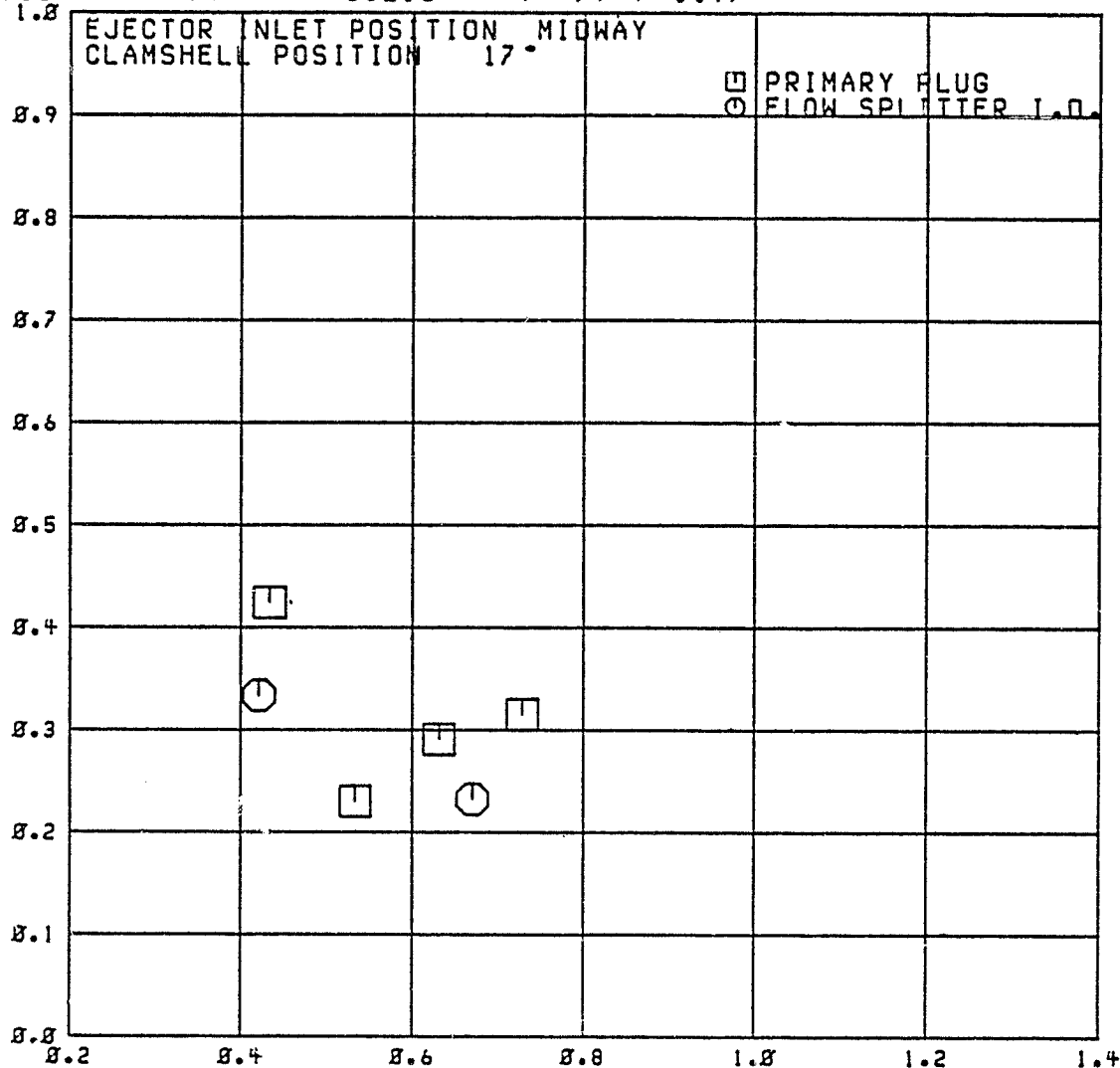
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.05$

$P_{tr}/P_o = 6.216$

$P_{tr}/P_{tp} = 1.97$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 45

C2

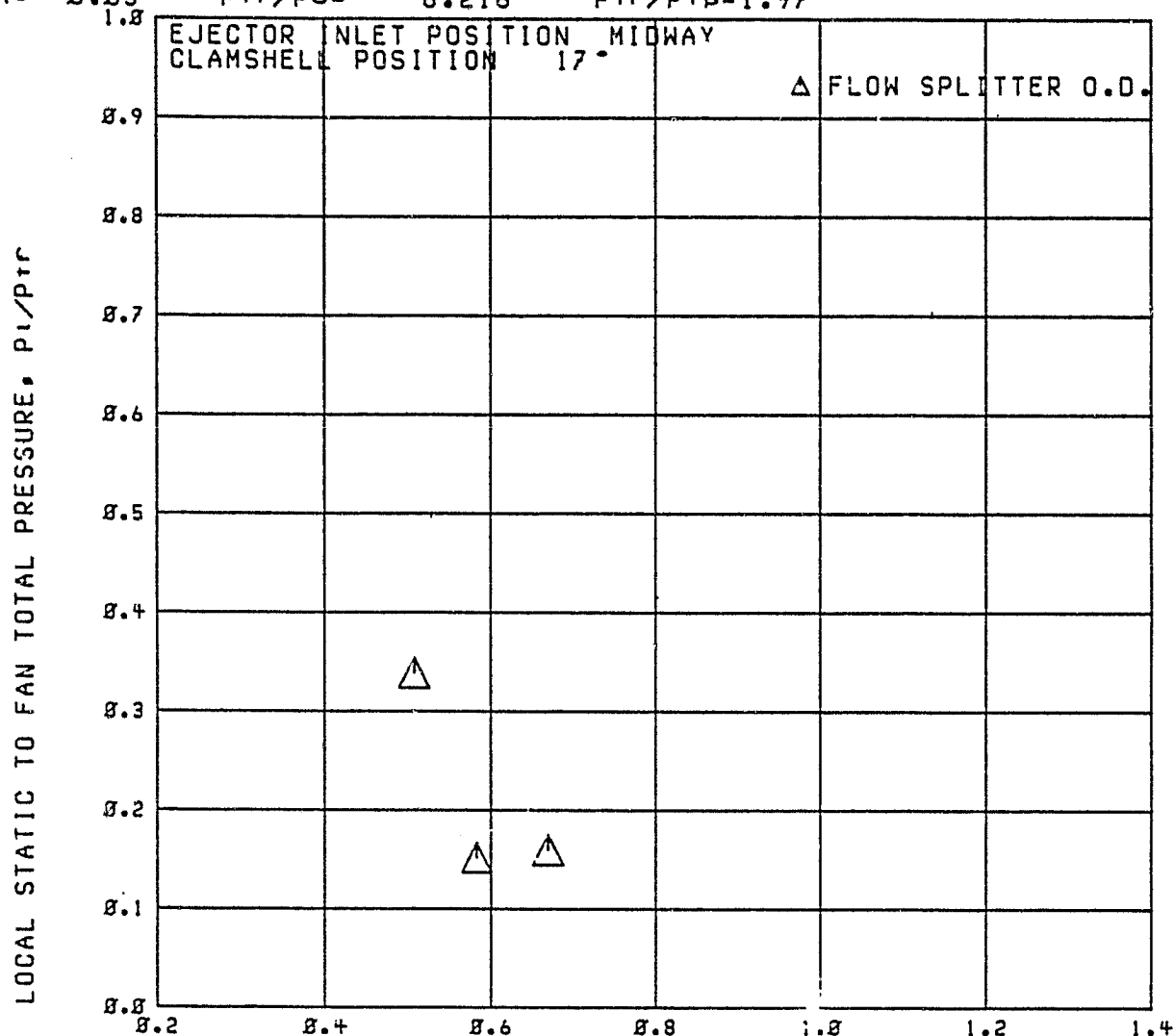
RDG=2228

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.05$

$P_{tr}/P_0 = 6.216$

$P_{tr}/P_{tp} = 1.97$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

END OF PAGE 15  
FOR QUALITY

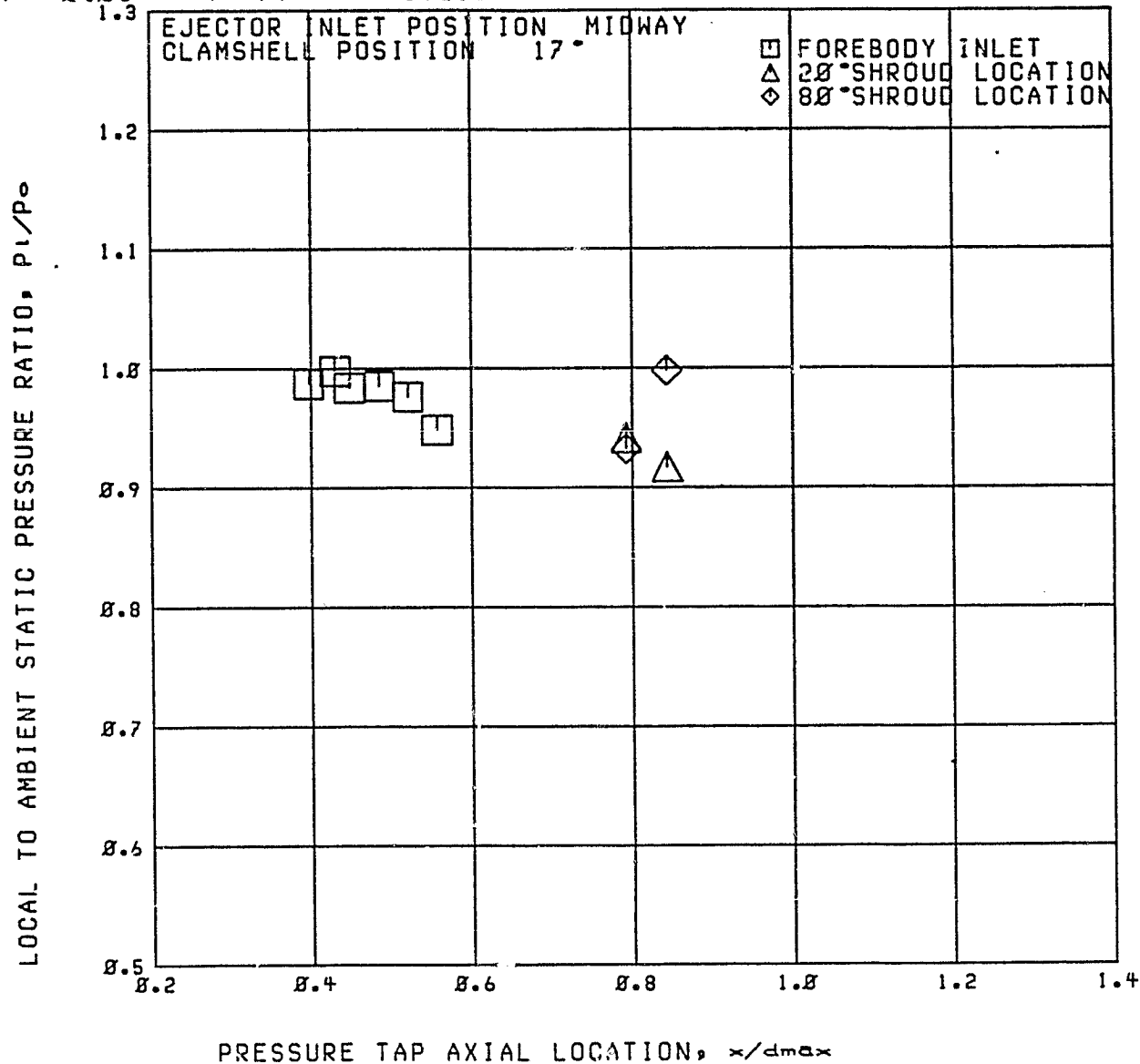
RUN 45

C2

RDG=2228

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.05$   $P_{tr}/P_o = 6.216$   $P_{tr}/P_{trp} = 1.97$  AT SUBSONIC CRUISE



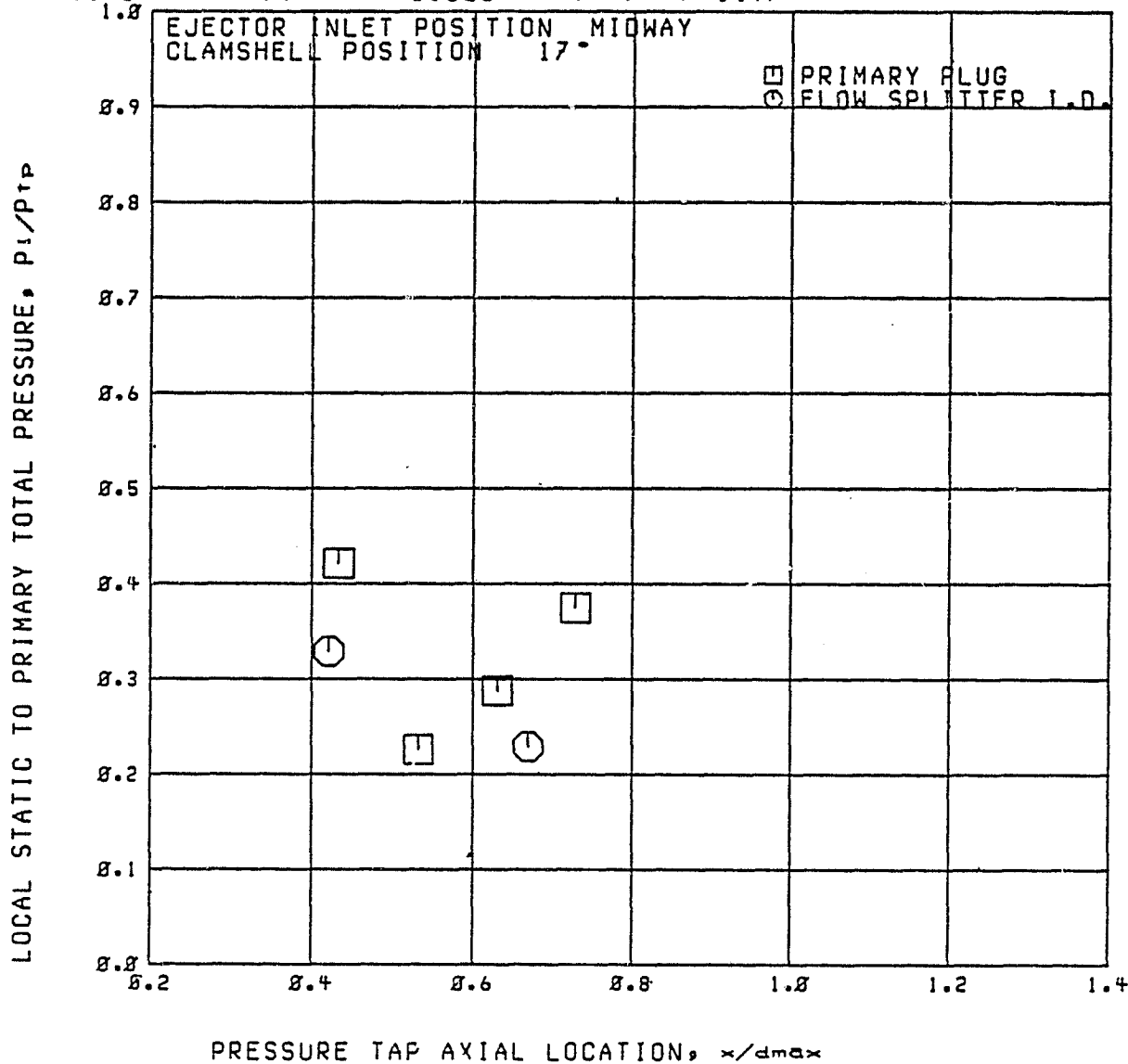
RUN 45

C2

RDG=2232

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.95$   $P_{tr}/P_o = 5.323$   $P_{tr}/P_{tp} = 1.97$



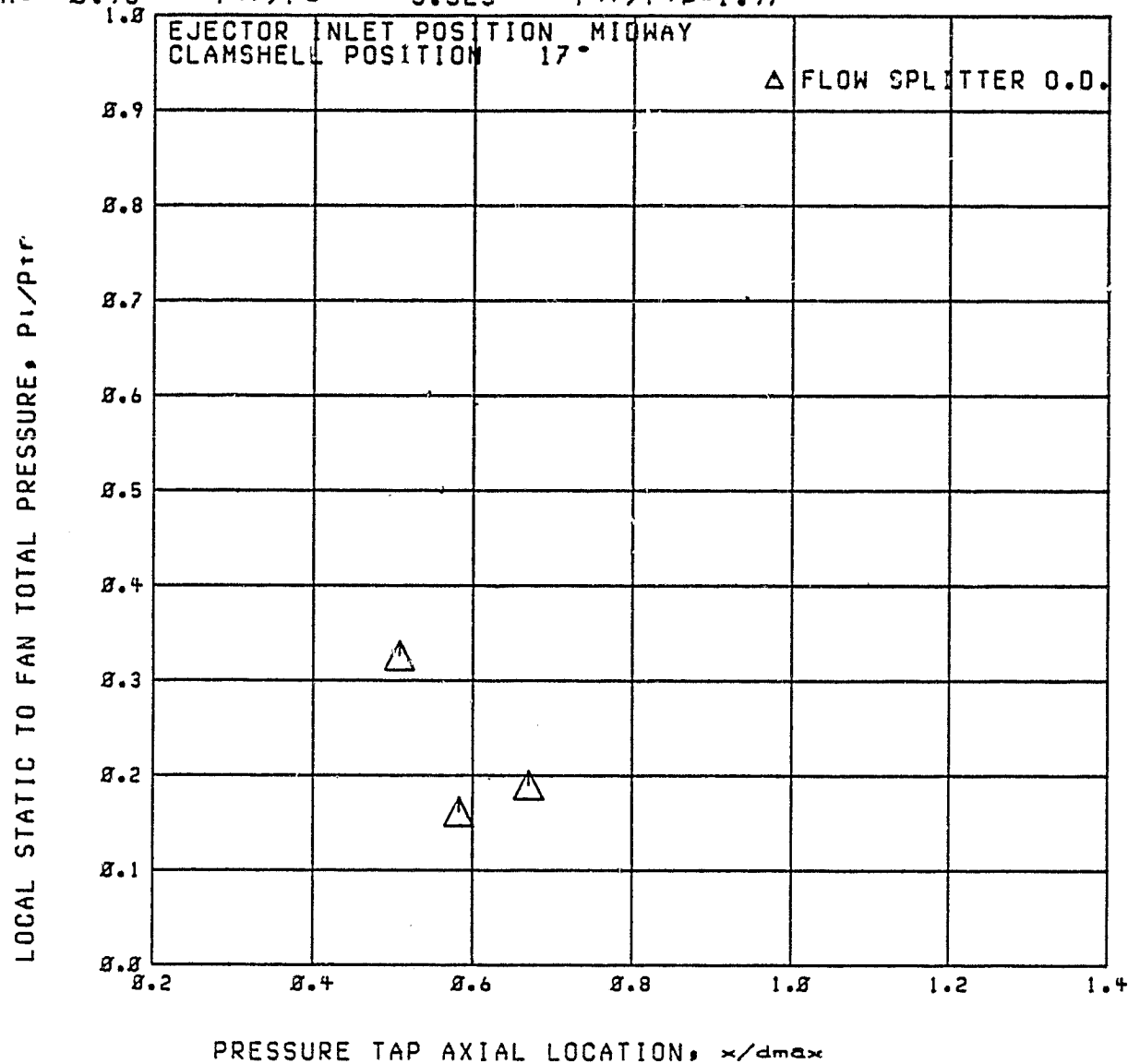
Run 45

C2

RDG=2232

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.95$   $P_{tr}/P_o = 5.323$   $P_{tr}/P_{tp} = 1.97$



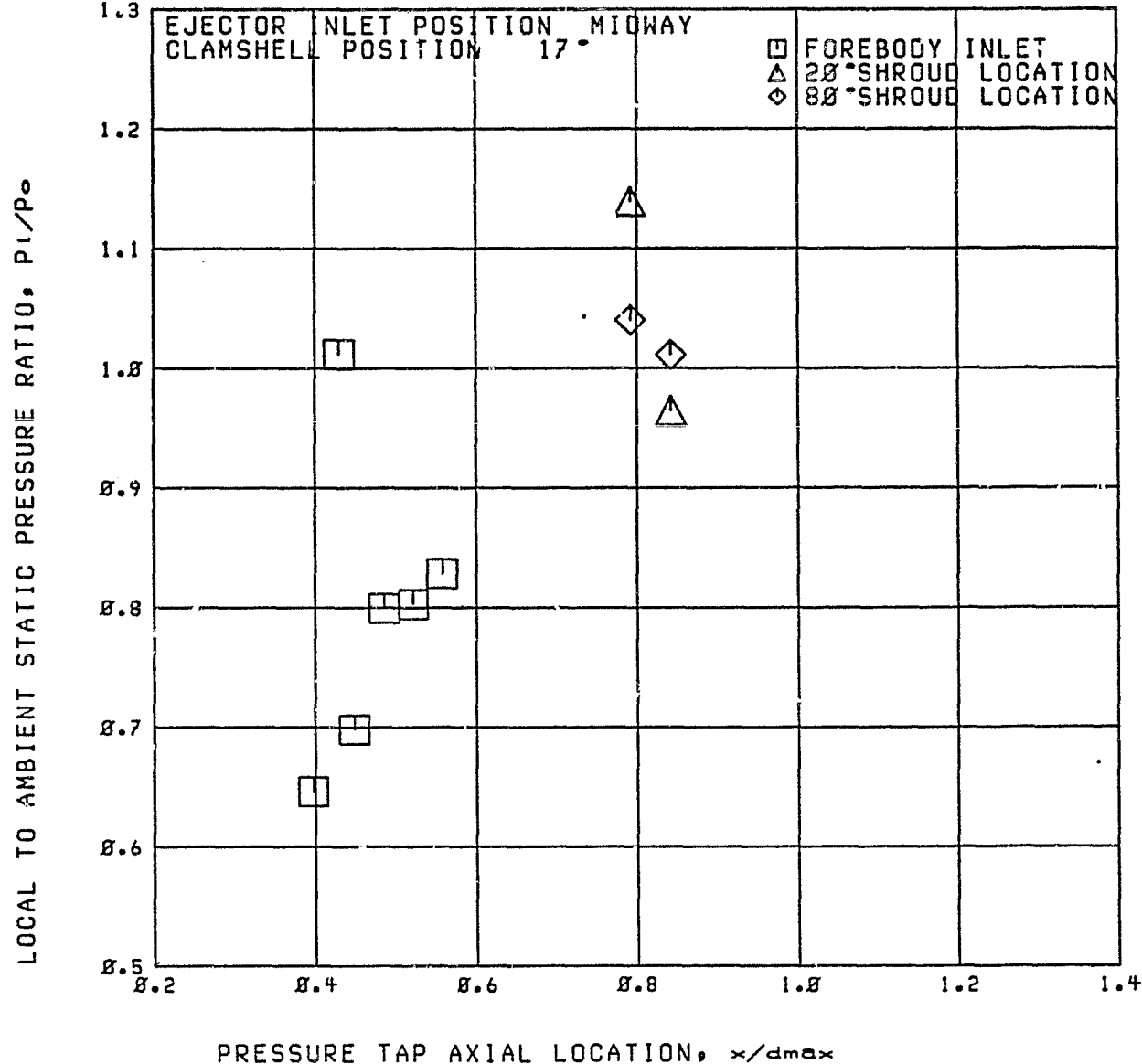
RUN 45

RDG=2232

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_\infty = 0.95$   $P_{tr}/P_\infty = 5.323$   $P_{tr}/P_{trp} = 1.97$  AT SUBSONIC CRUISE



RUN 45

C2

RDG=2236

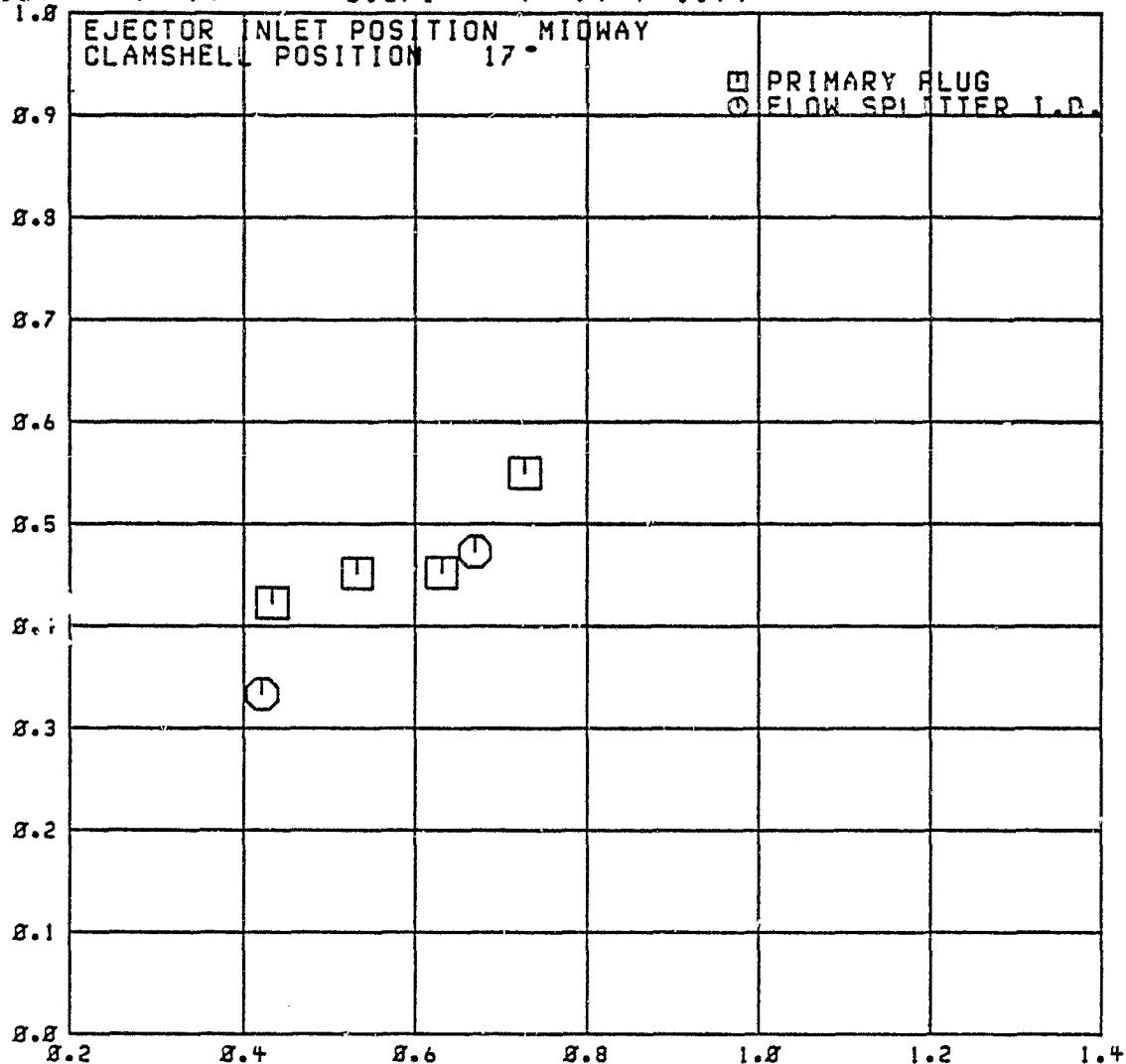
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_{0x} = 3.571$

$P_{tr}/P_{tp} = 1.94$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

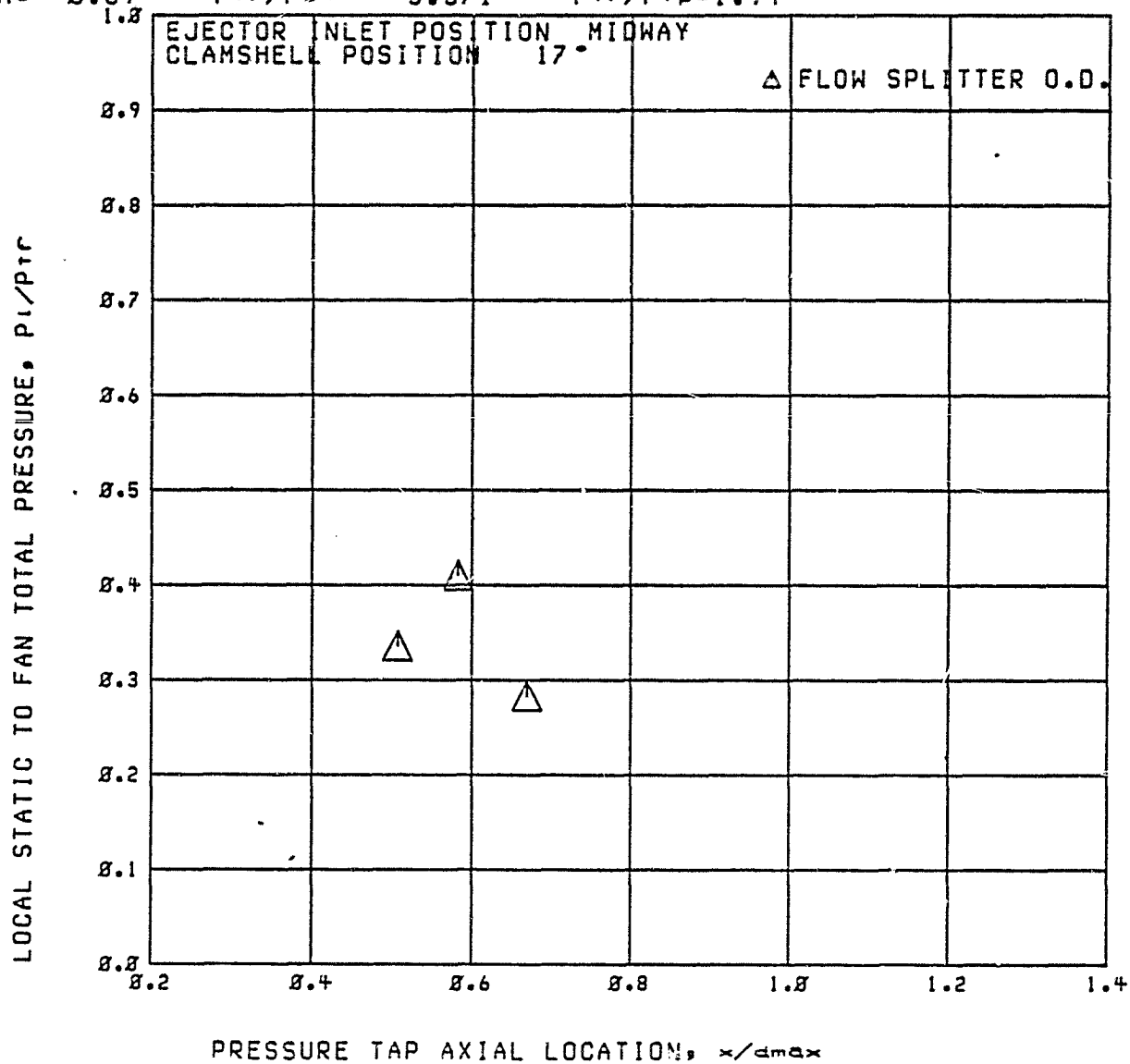
Run 45

C2

RDG=2236

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$   $P_{tr}/P_{0e} = 3.571$   $P_{tr}/P_{tp} = 1.94$





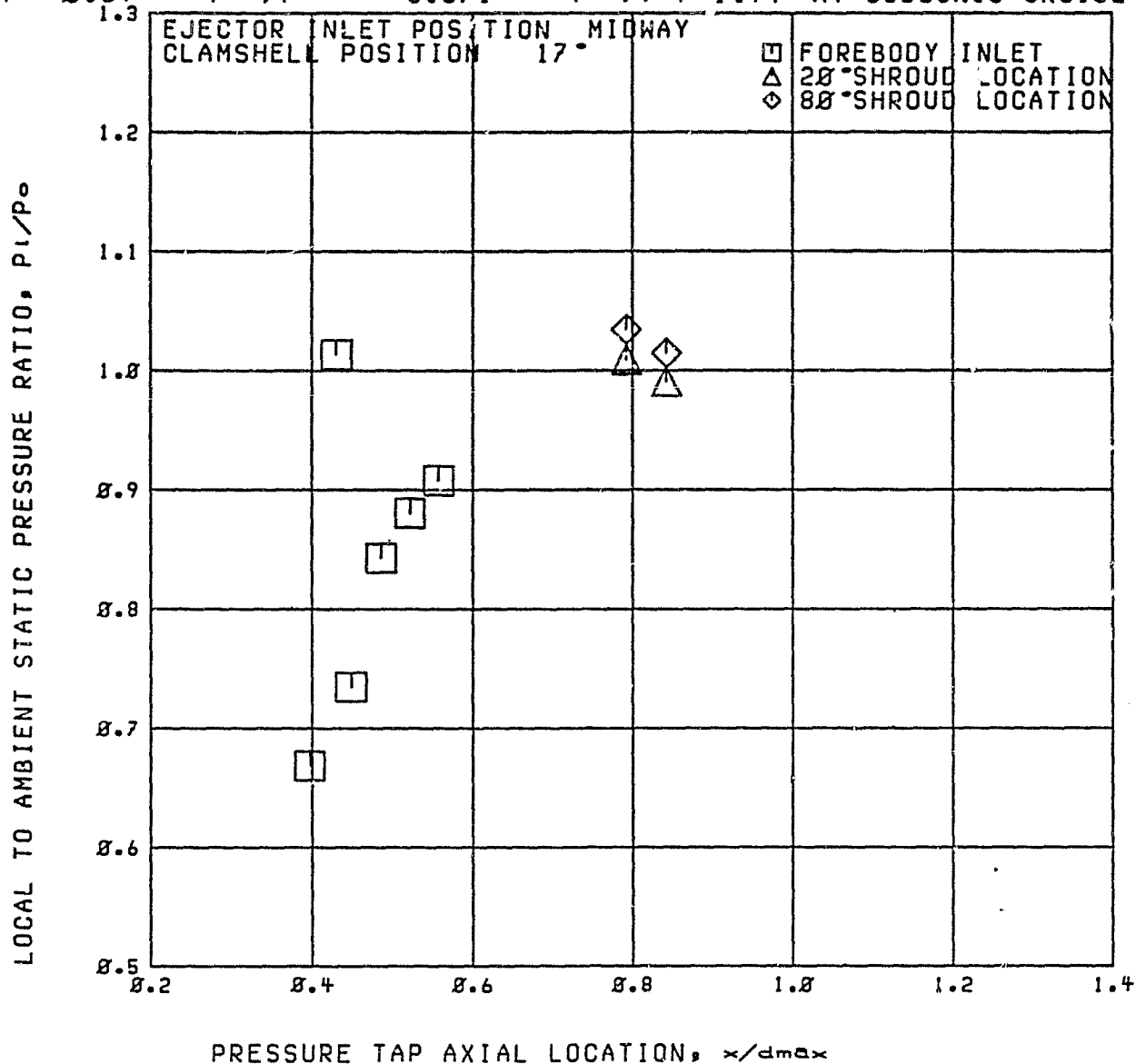
RUN 45

C2

RDG=2236

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 3.571$   $P_{tr}/P_{tp} = 1.94$  AT SUBSONIC CRUISE



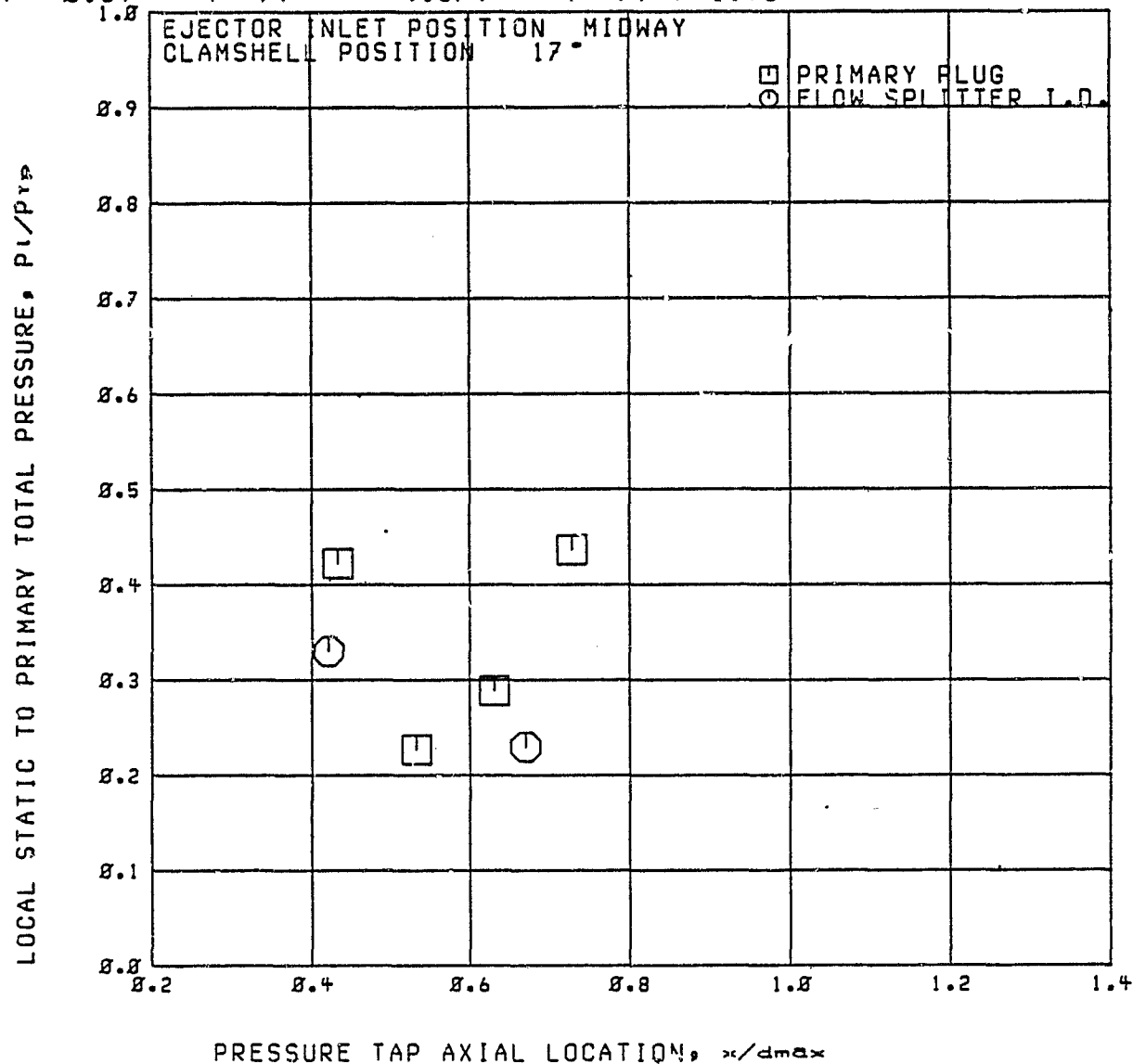
RUN 45

C2

RDG=2237

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$      $P_{tr}/P_0 = 4.574$      $P_{tr}/P_{tp} = 1.98$



RUN 45

C2

RDG=2237

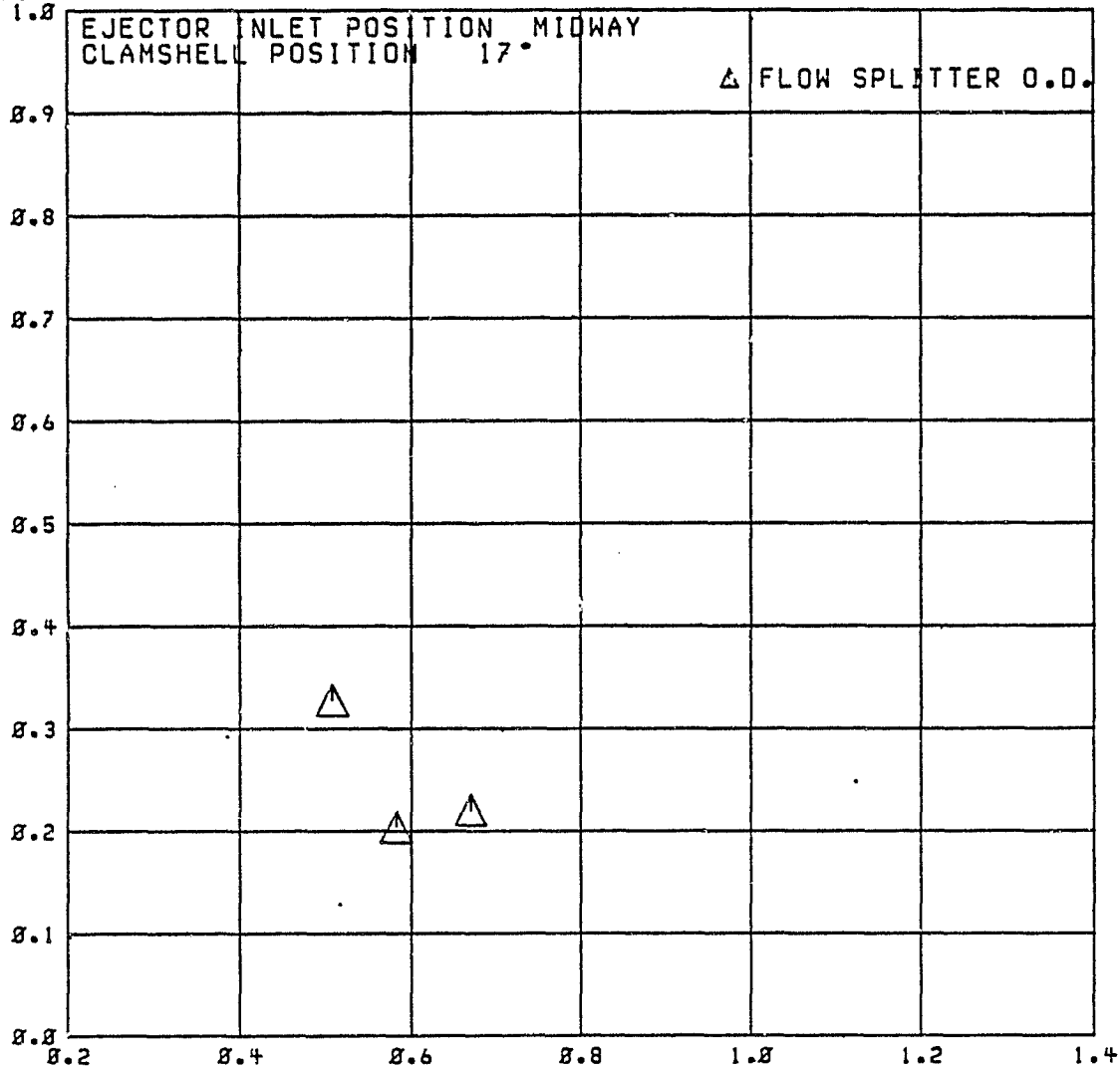
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_{02} = 4.574$

$P_{tr}/P_{tp} = 1.98$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_1/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

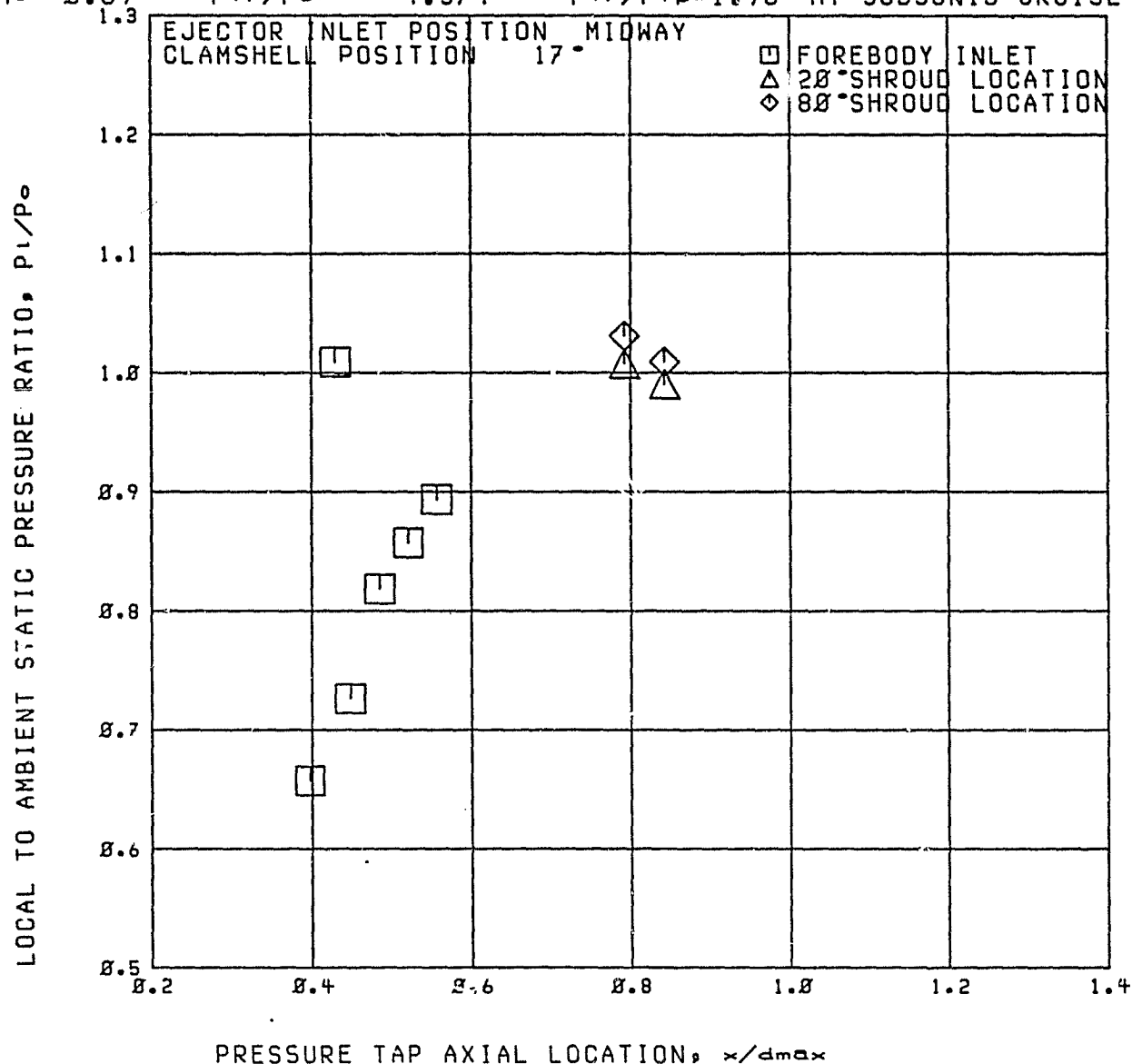
Run 45

RDG=2237

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 4.574$   $P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE



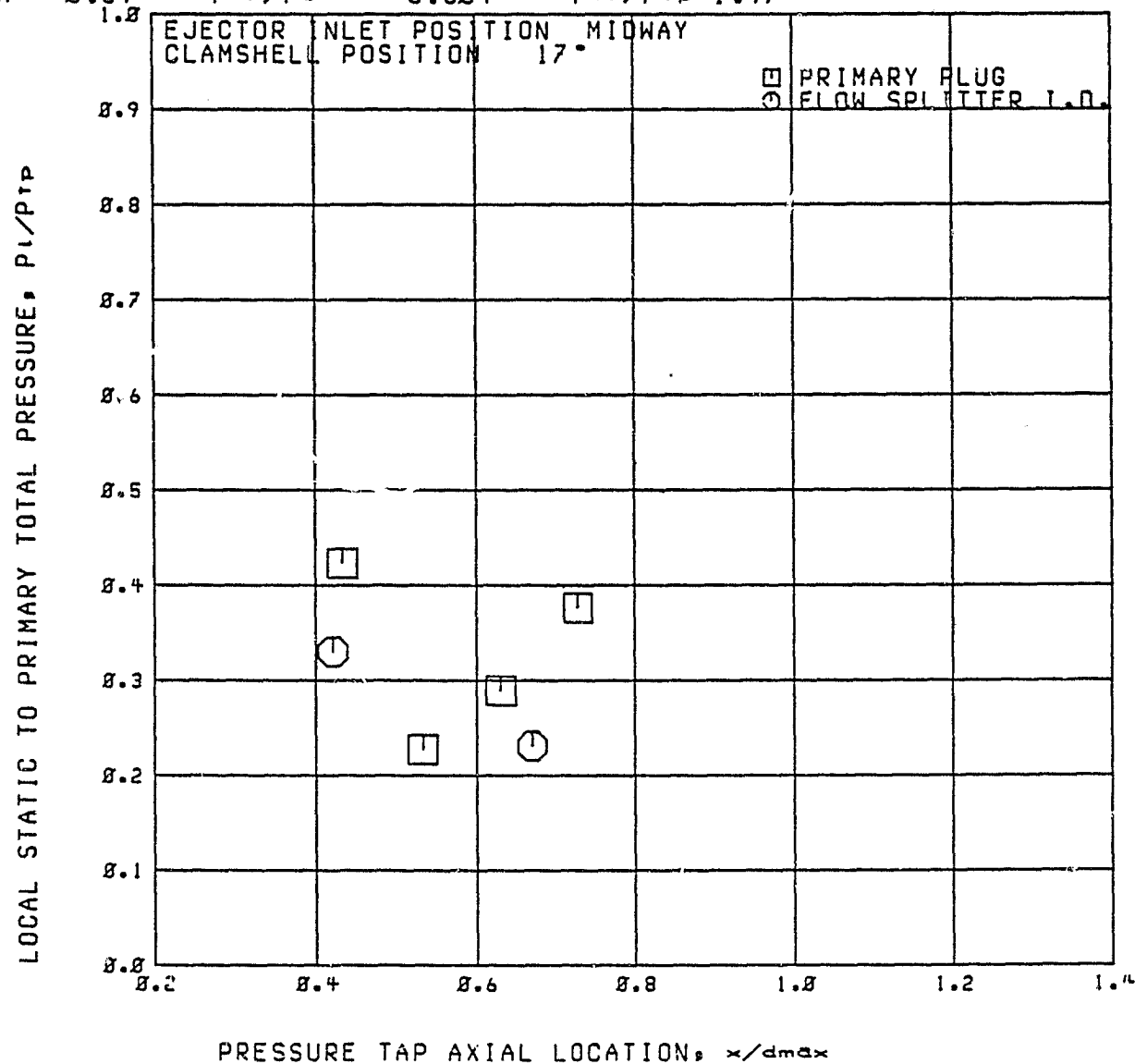
RUN 45

C2

RDG=2238

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$   $P_{tr}/P_o = 5.304$   $P_{tr}/P_{tp} = 1.97$



RUN 45

C2

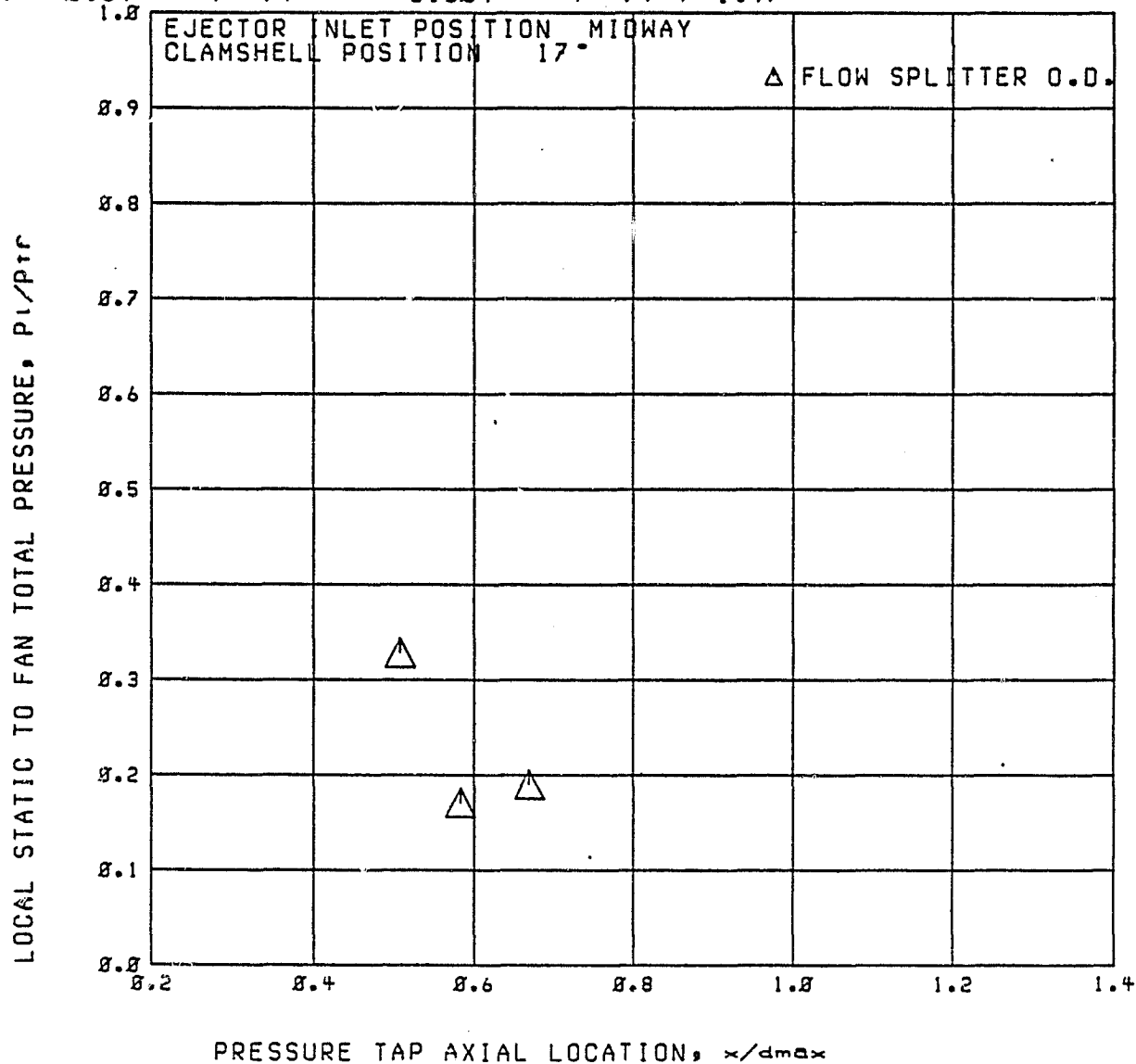
RDG=2238

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 = 5.304$

$P_{tr}/P_{tp} = 1.97$



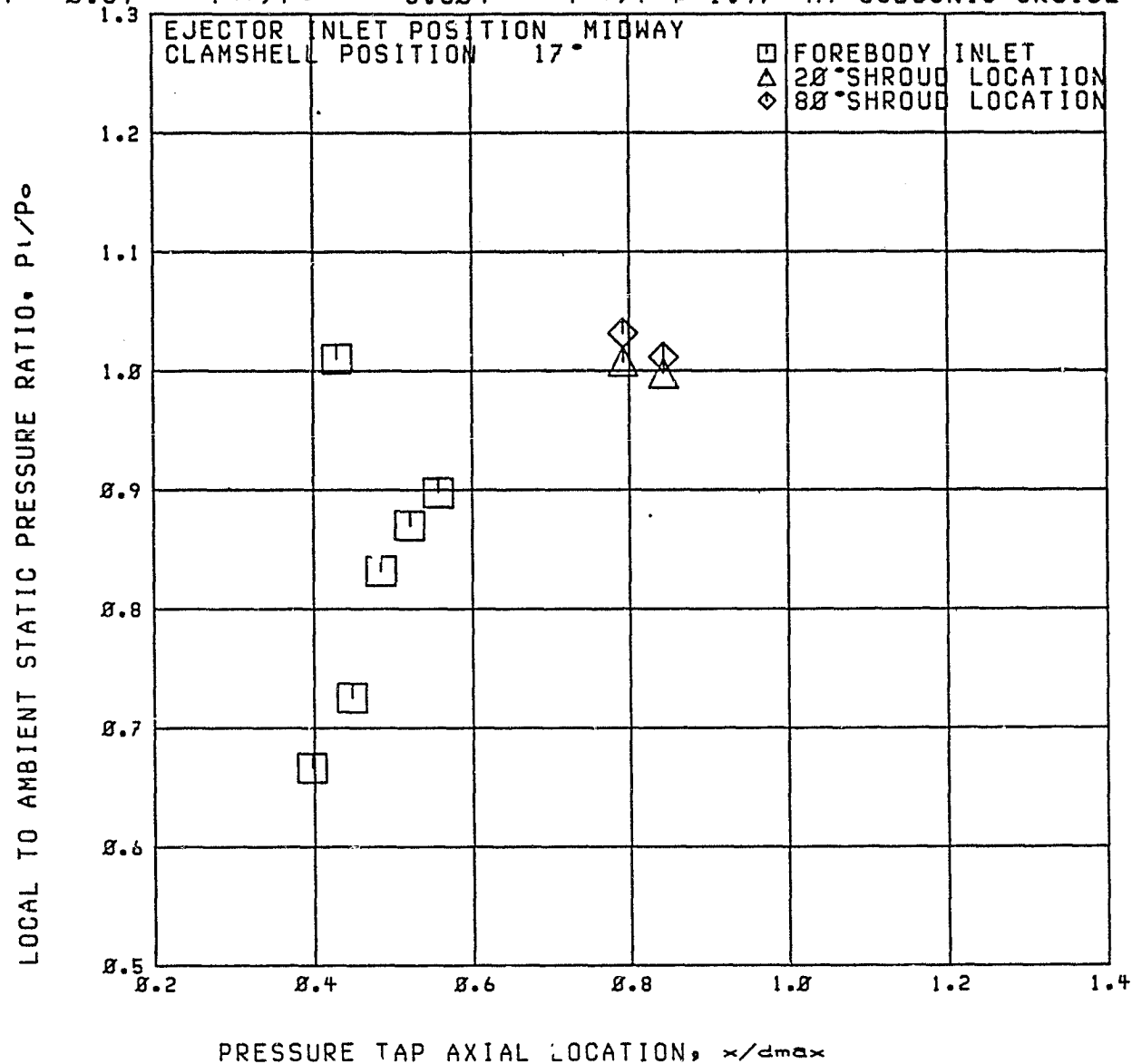
RUN 45

RDG=2238

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.89$   $P_{tr}/P_0 = 5.304$   $P_{tr}/P_{tr} = 1.97$  AT SUBSONIC CRUISE



RUN 45

C2

RDG=2239

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

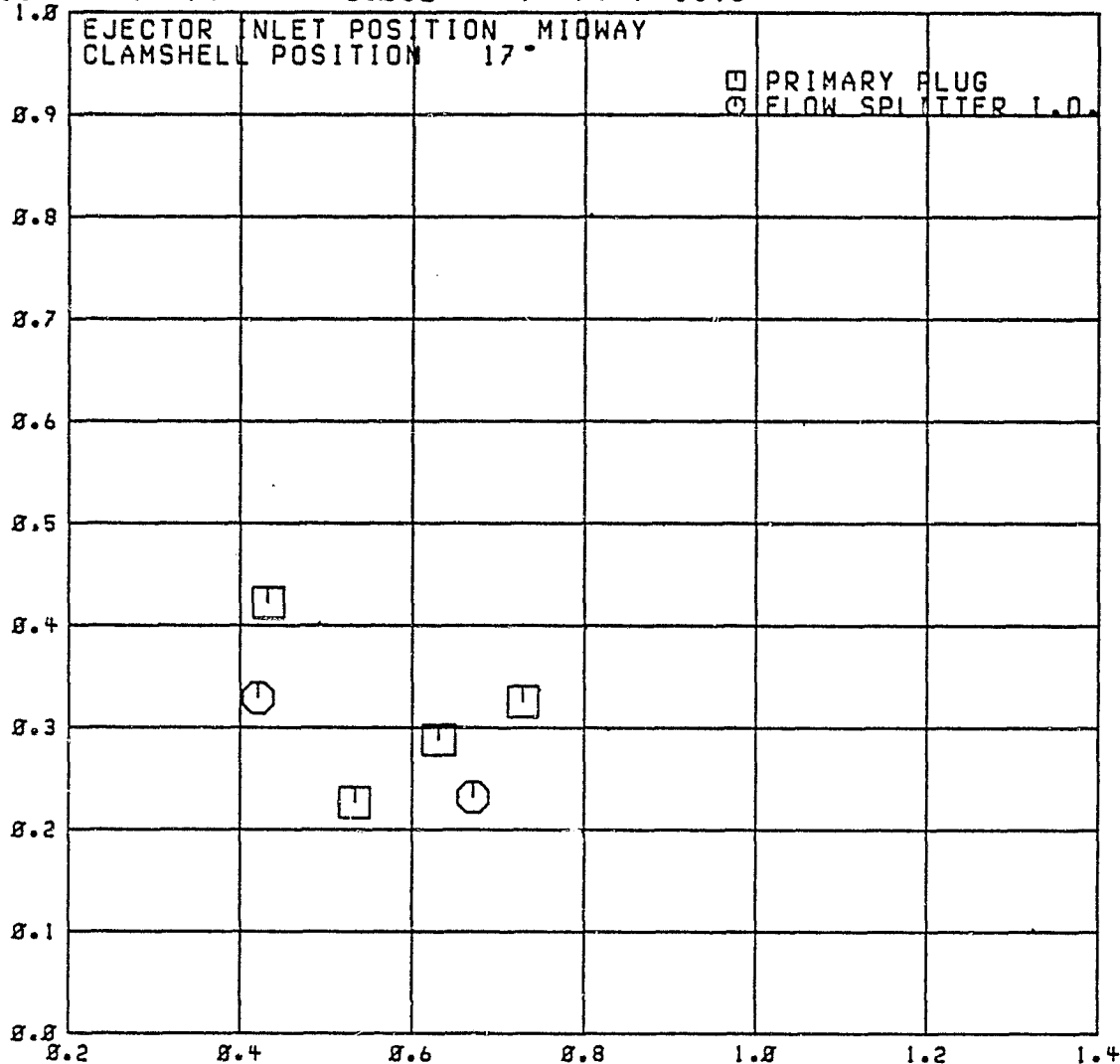
$M_o = 0.89$

$P_{tr}/P_o =$

6.082

$P_{tr}/P_{tp} = 1.96$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$



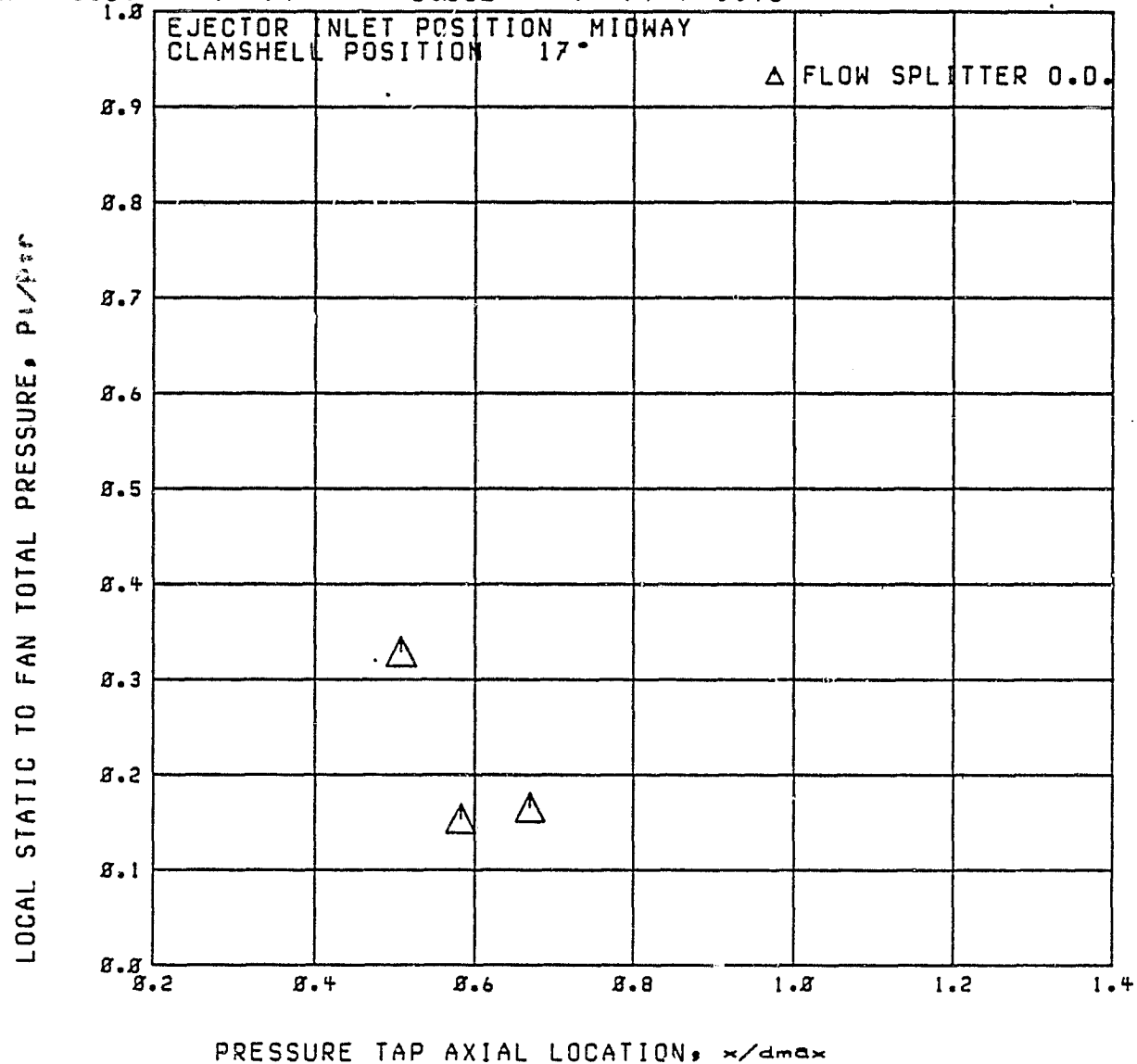
RUN 45

C2

RDG=2239

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$      $P_{tr}/P_0 = 6.082$      $P_{tr}/P_{tp} = 1.96$



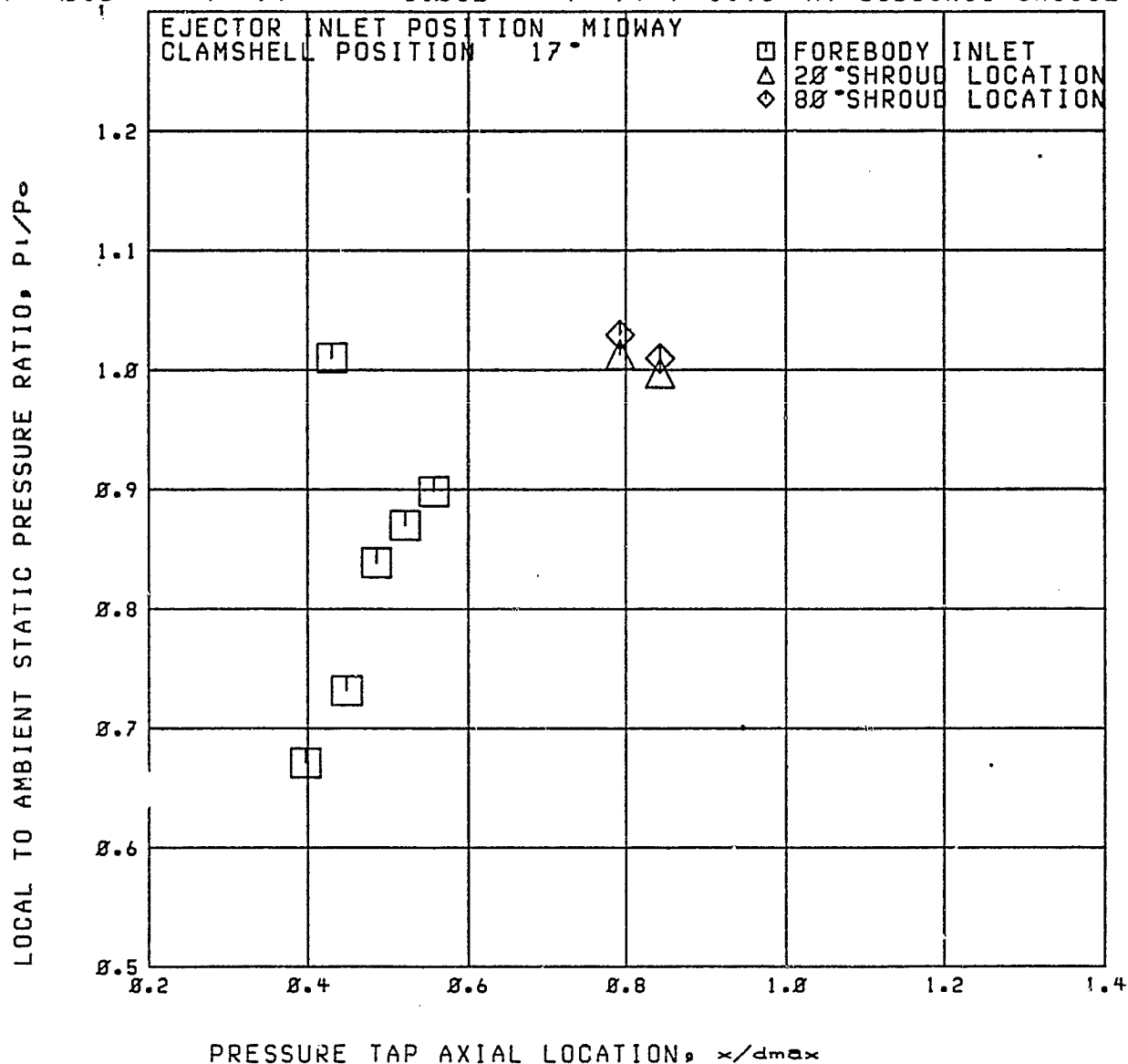
RUN 45

C2

RDG=2239

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.87$   $P_{tr}/P_0 = 6.082$   $P_{tr}/P_{tr} = 1.96$  AT SUBSONIC CRUISE



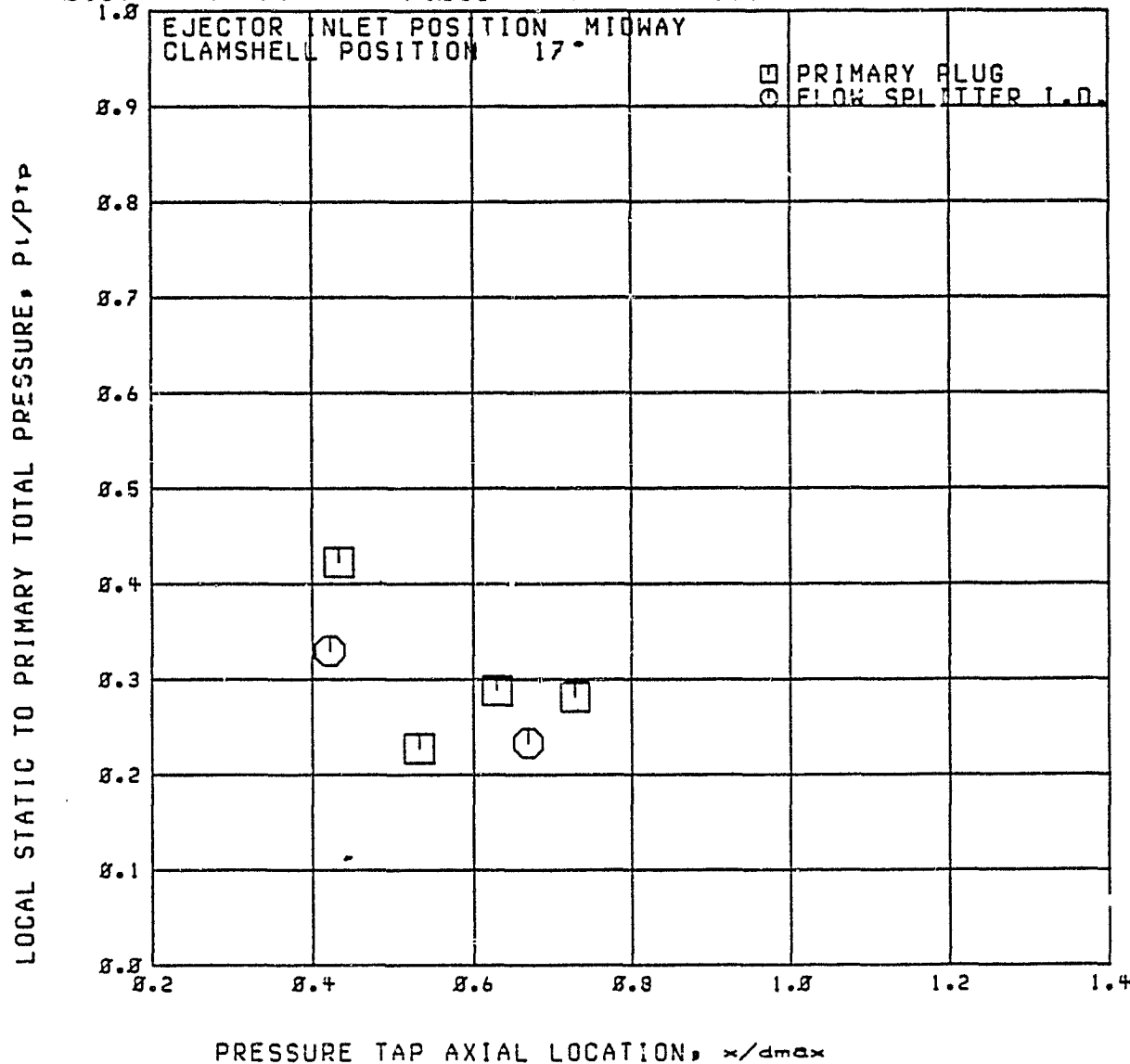
RUN 45

C2

RDG=2248

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$   $P_{tr}/P_o = 7.885$   $P_{tr}/P_{tp} = 1.97$



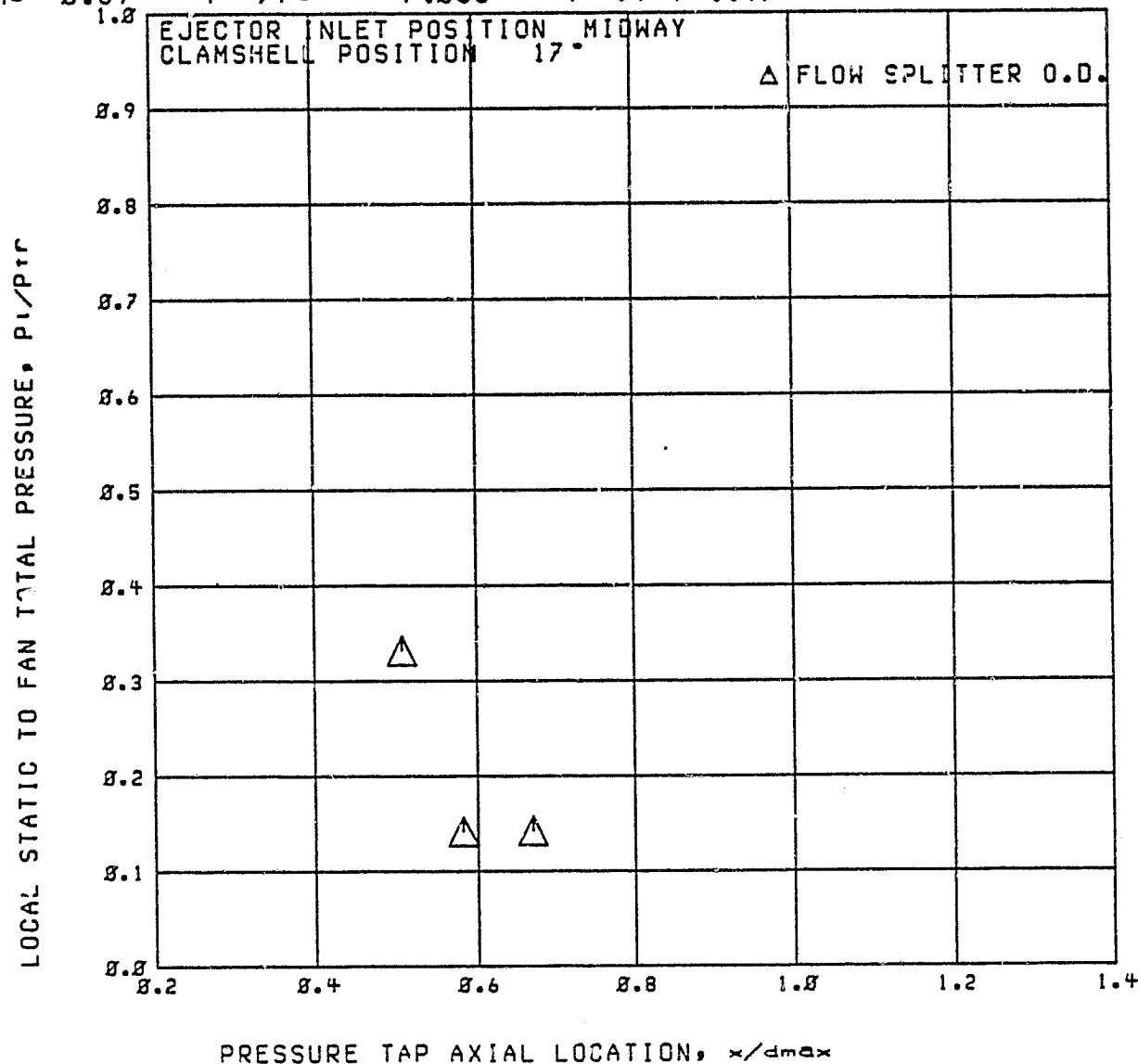
RUN 45

C2

RDG=2240

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$   $P_{tr}/P_o = 7.085$   $P_{tr}/P_{tp} = 1.97$



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OF FOUR QUALITY

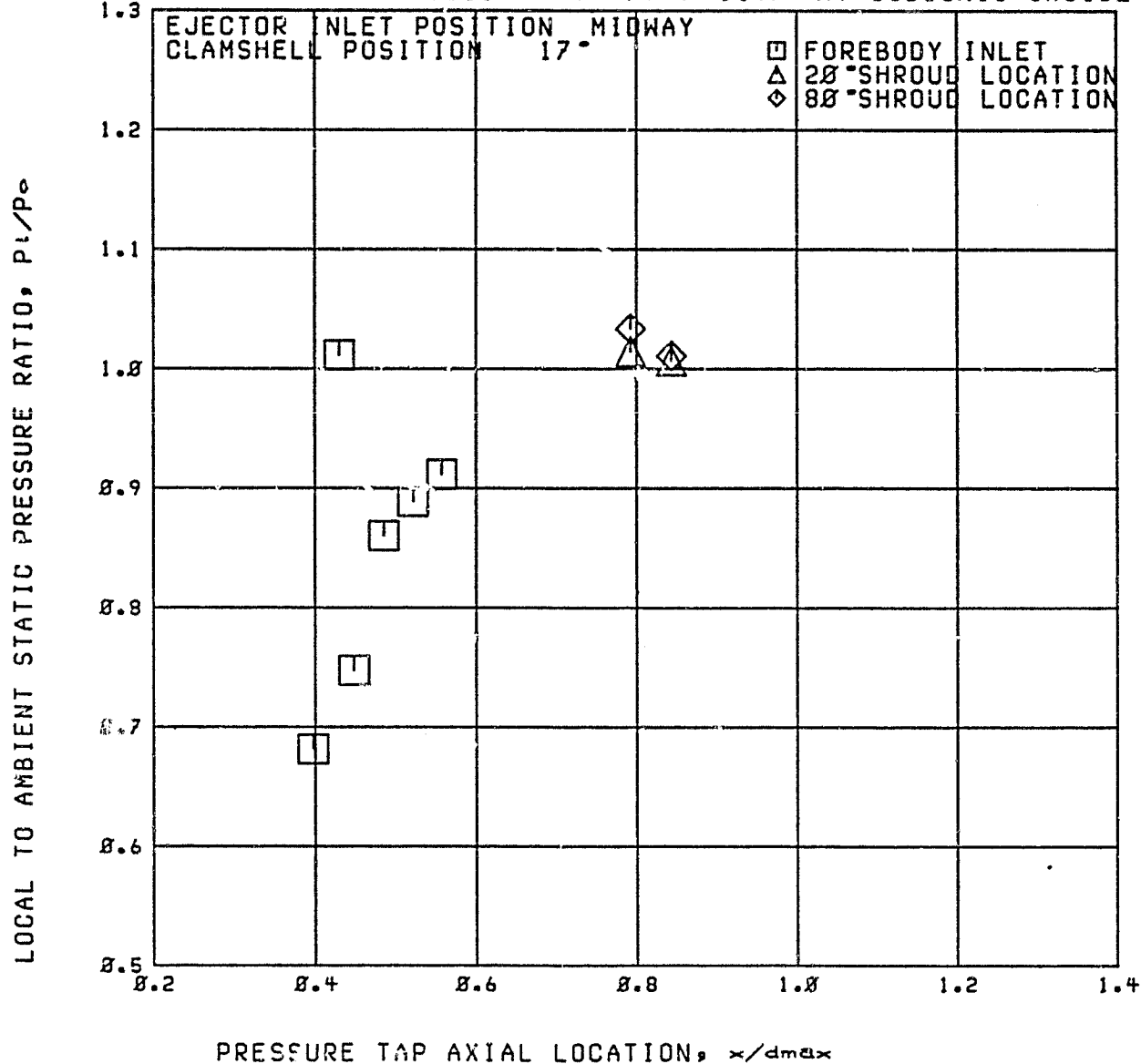
RUN 45

RDG=2248

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 7.085$   $P_{tr}/P_{tr} = 1.97$  AT SUBSONIC CRUISE



RUN 45

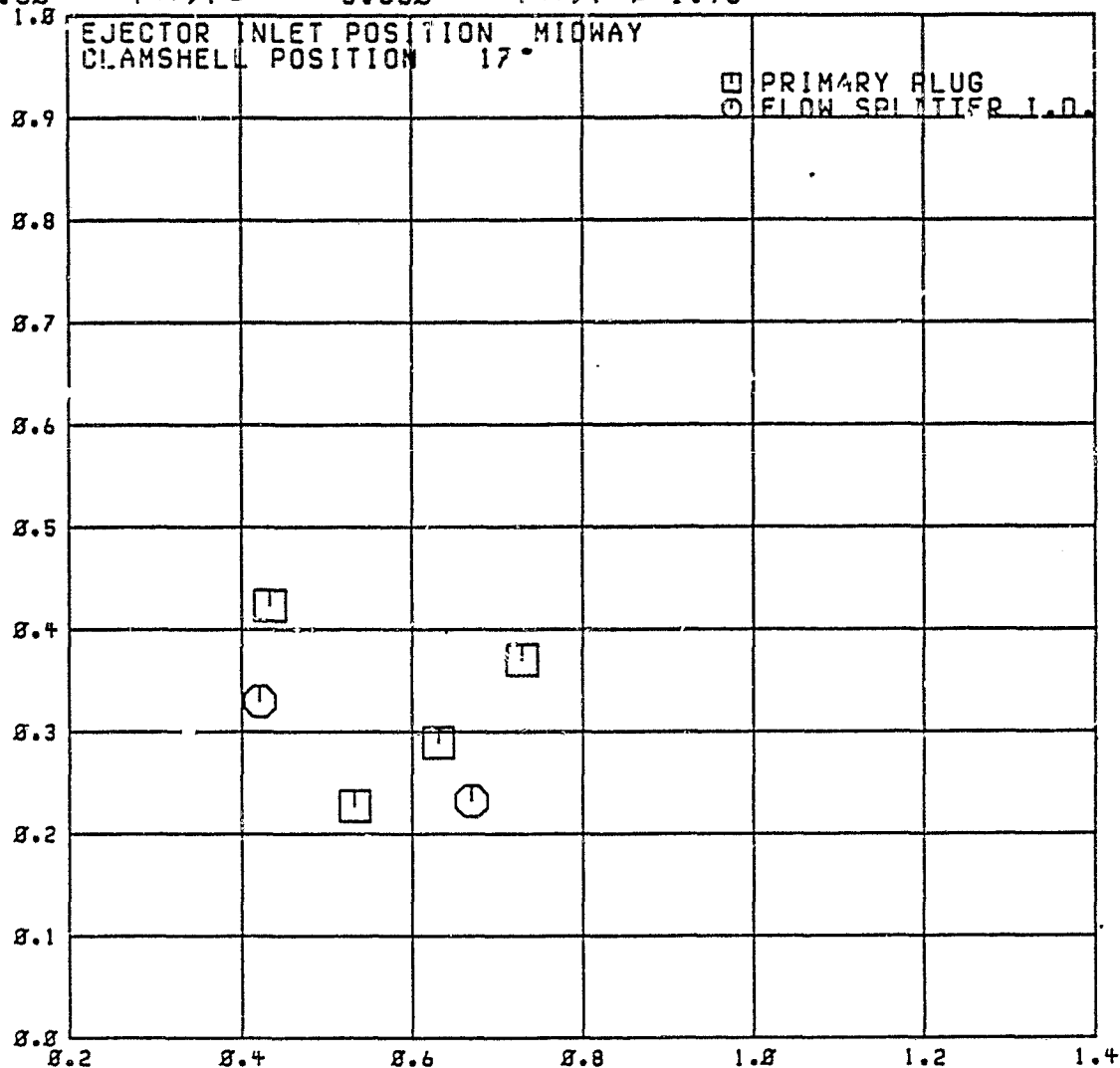
C2

RDG=2247

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.88$   $P_{tr}/P_0 = 5.338$   $P_{tr}/P_{tp} = 1.96$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

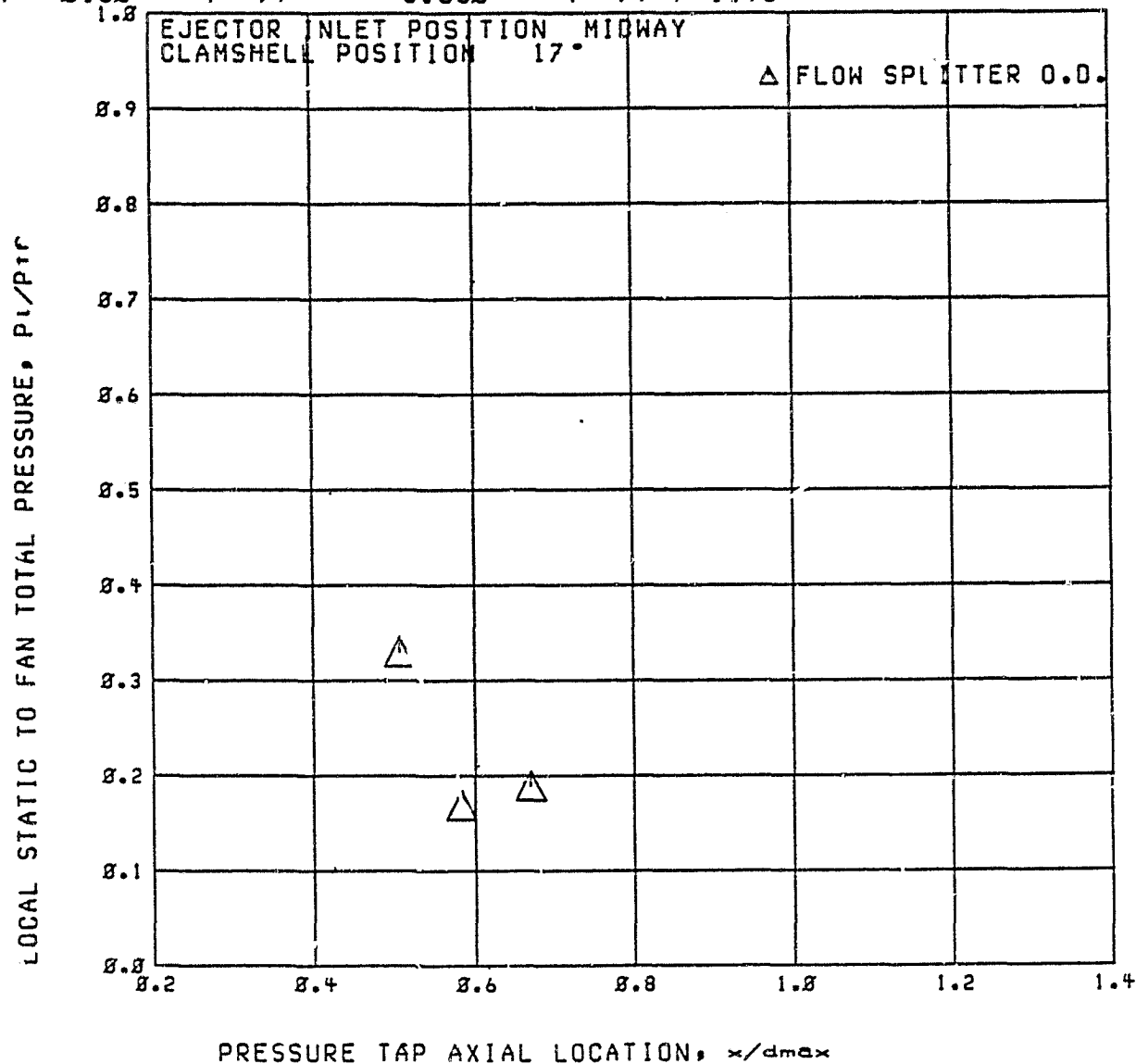
RUN 45

C2

PDG=2247

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.80$   $P_{tr}/P_0 = 5.330$   $P_{tr}/P_{tp} = 1.96$



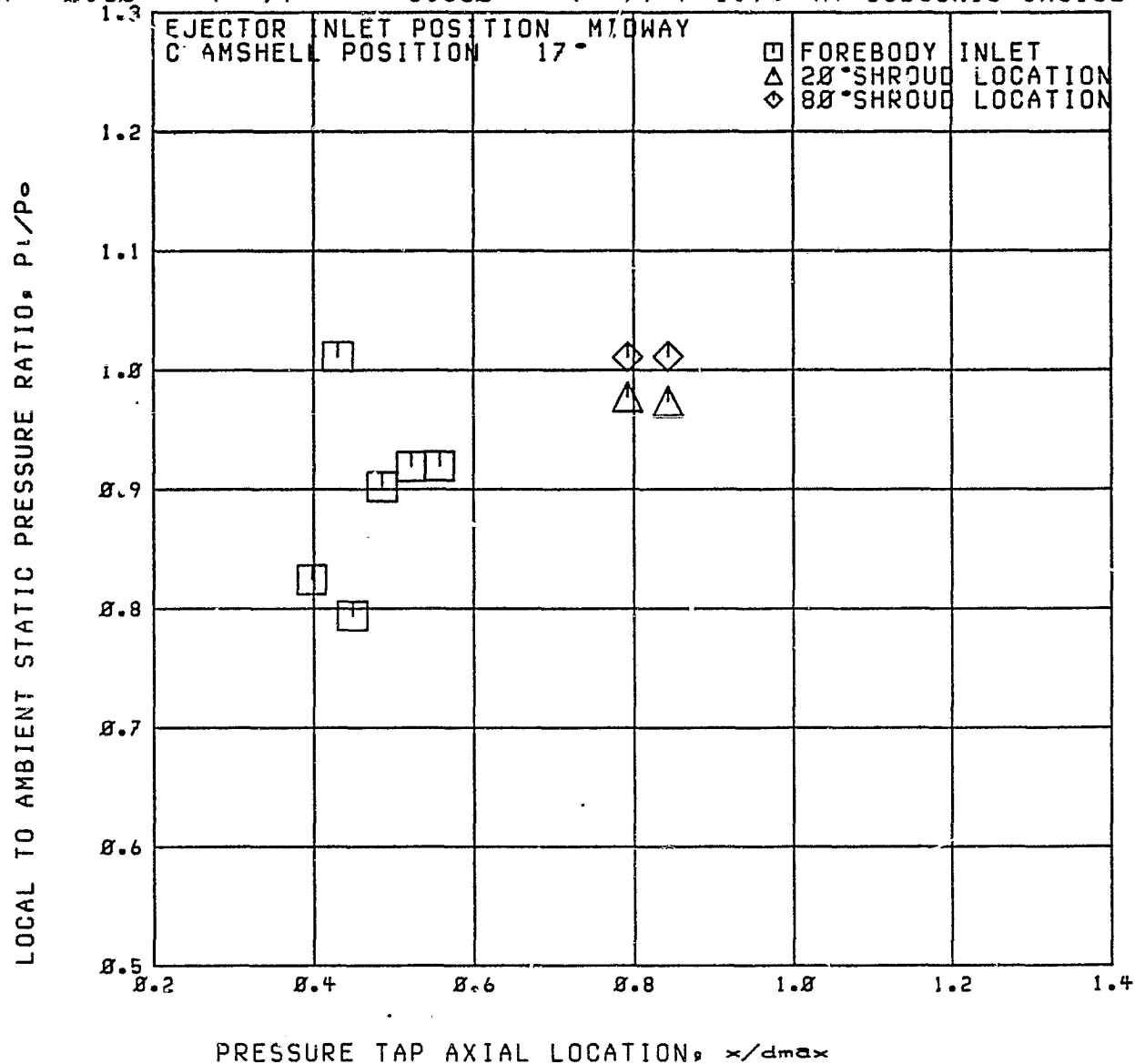
RUN 45

RDG=2247

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M = 0.80$   $P_{tr}/P_o = 5.330$   $P_{tr}/P_{tr} = 1.94$  AT SUBSONIC CRUISE





RUN 45

RDG=2251

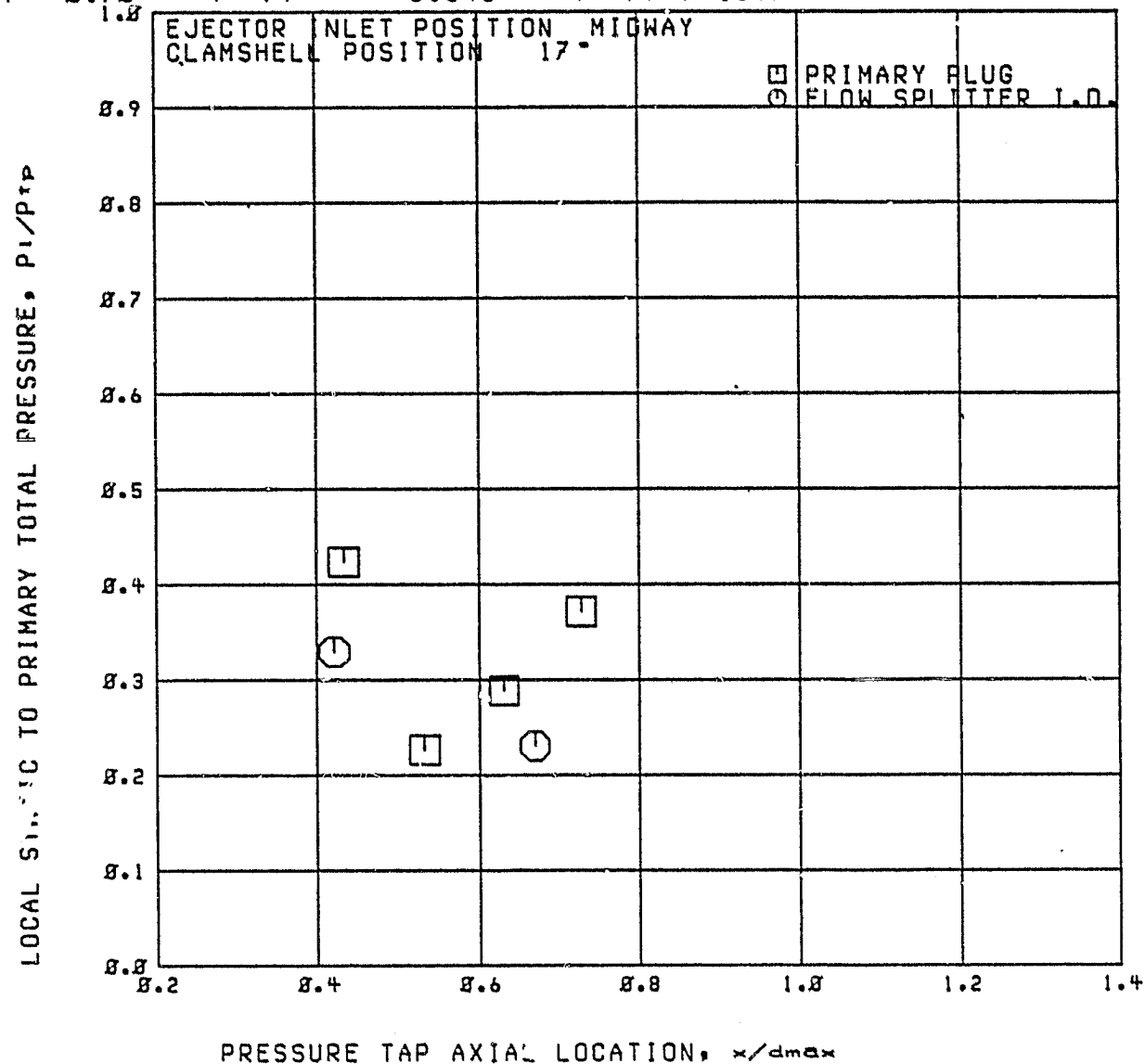
C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_\infty = 0.78$

$P_{tr}/P_\infty = 5.343$

$P_{tr}/P_{tp} = 1.97$



RUN 45

C2

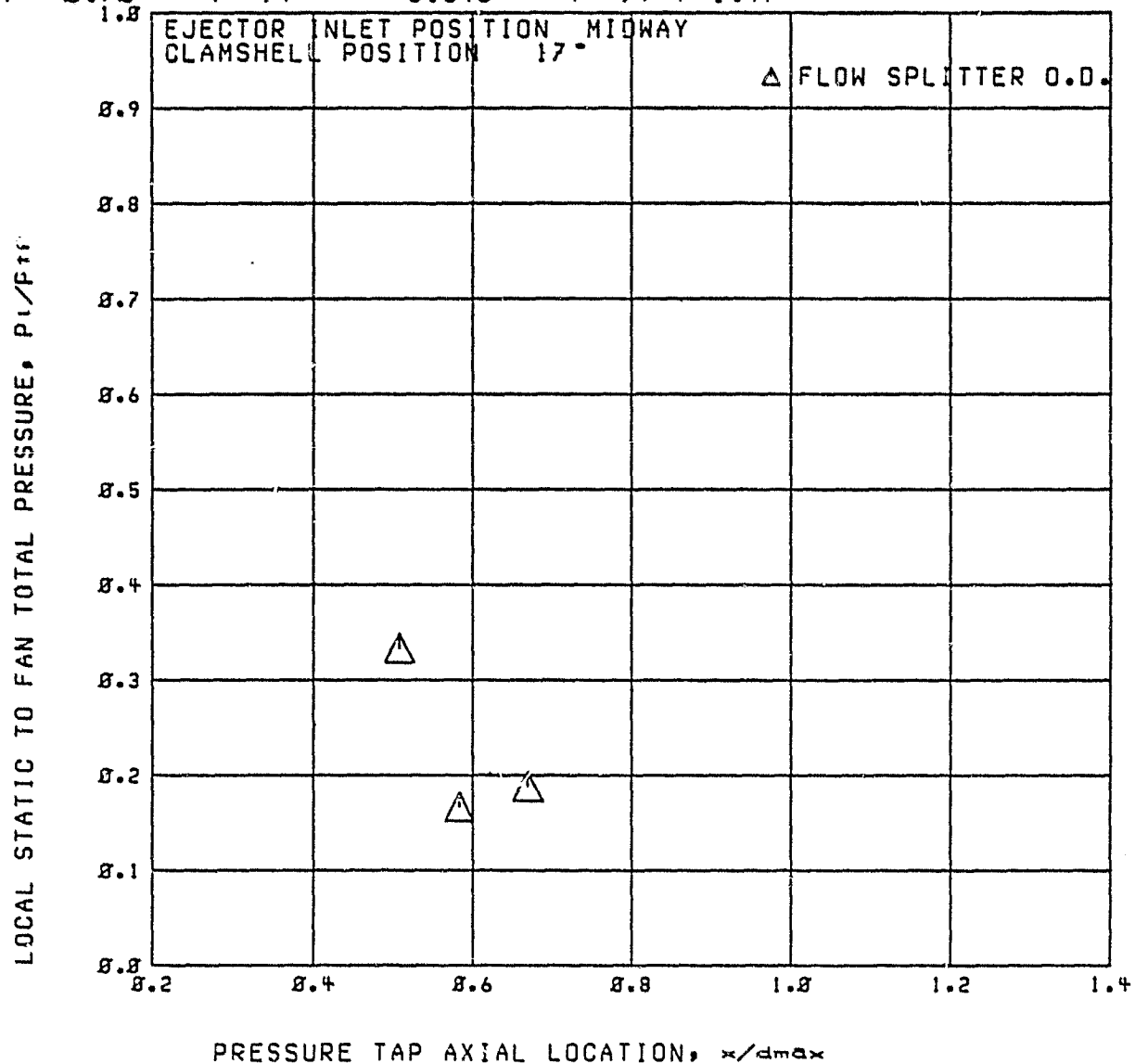
RDG=2251

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.70$

$P_{tr}/P_{0x} = 5.343$

$P_{tr}/P_{tp} = 1.97$



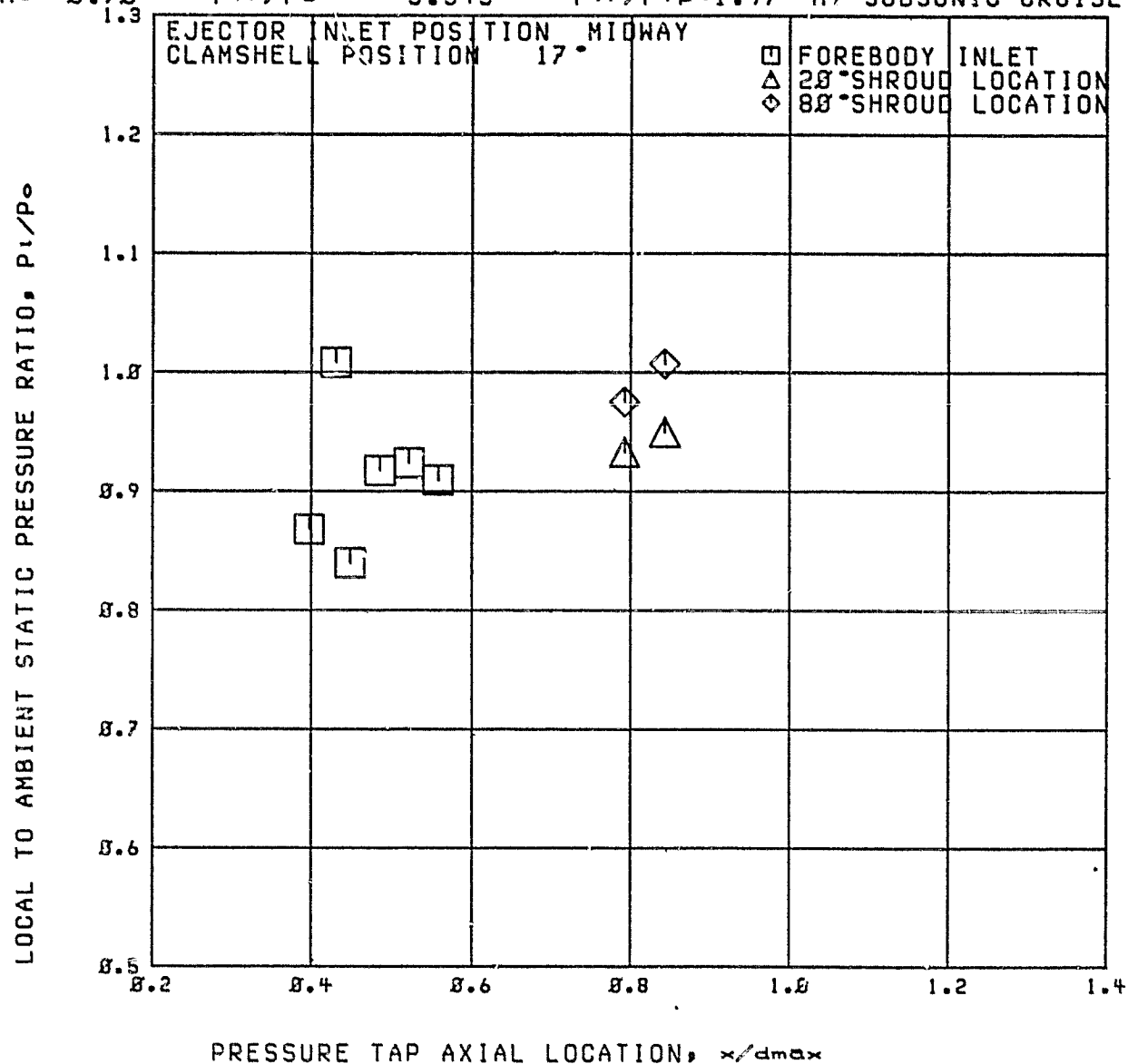
Rev 45

C2

RDG=2251

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.70$      $P_{tr}/P_o = 5.343$      $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



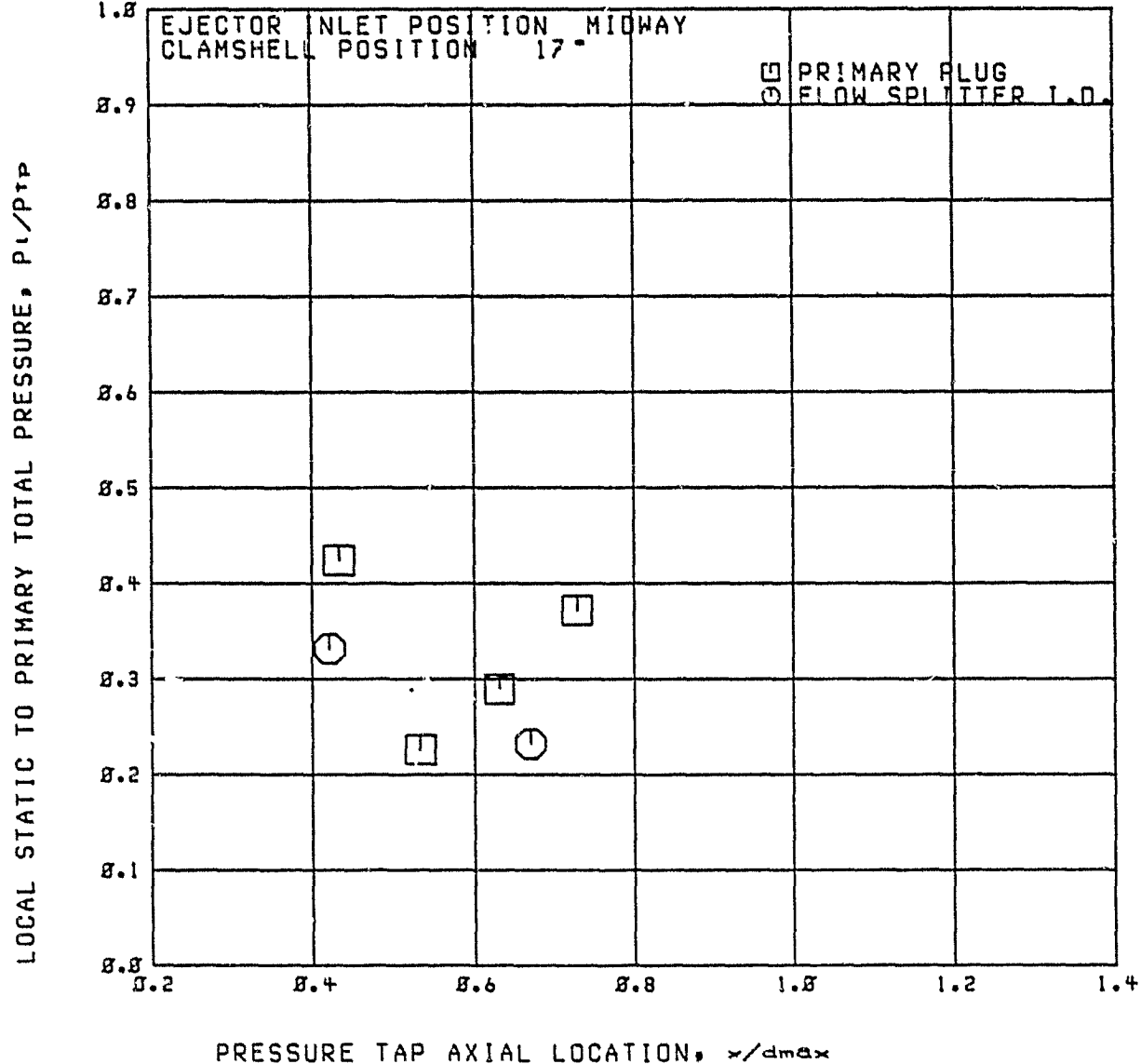
RUN 45

C2

RDG=2257

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.56$   $P_{tr}/P_{0\infty} = 5.354$   $P_{tr}/P_{tp} = 1.98$



RUN 45

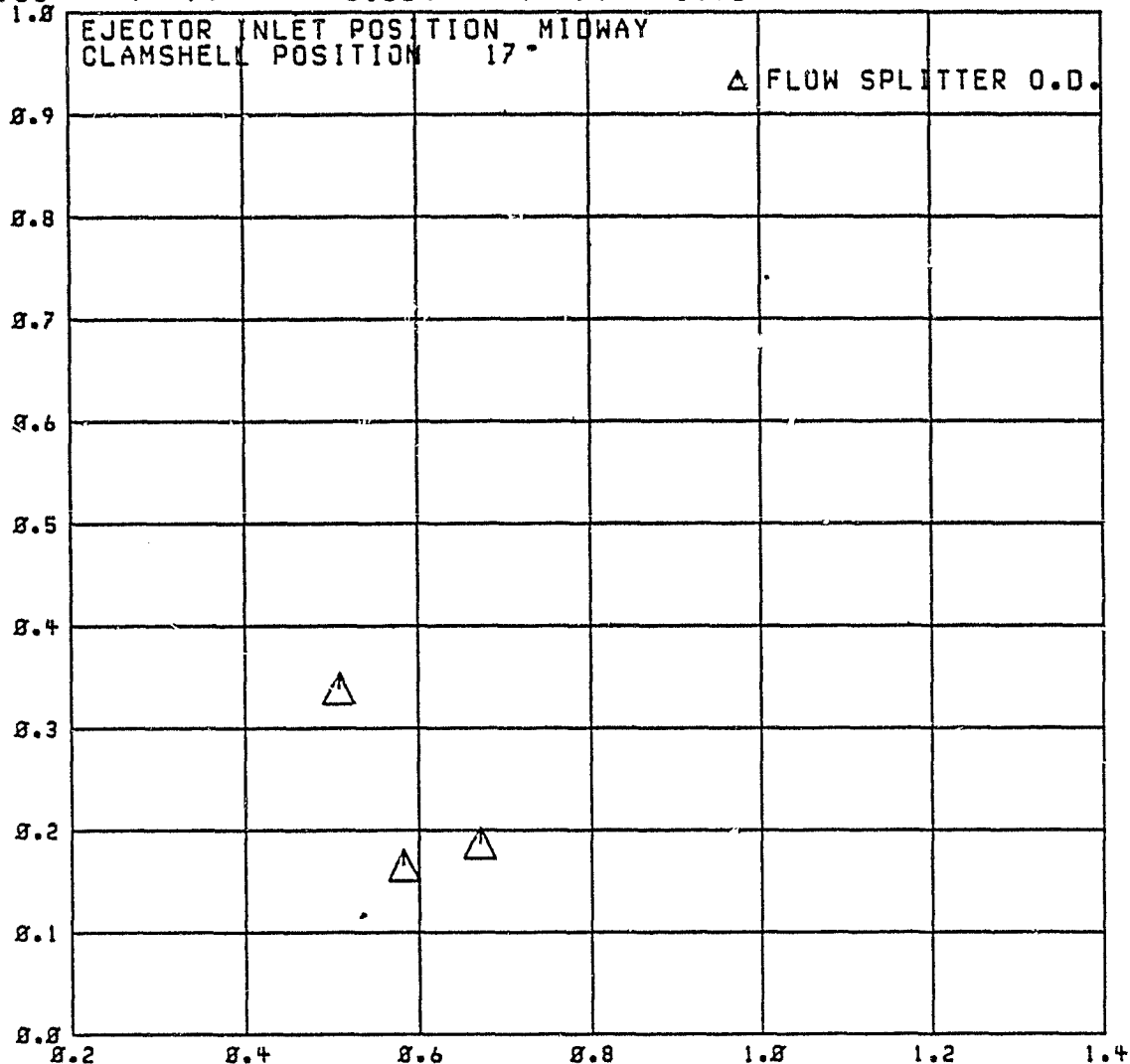
C2

RDG=2257

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.56$   $P_{tr}/P_{00} = 5.354$   $P_{tr}/P_{tr0} = 1.98$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

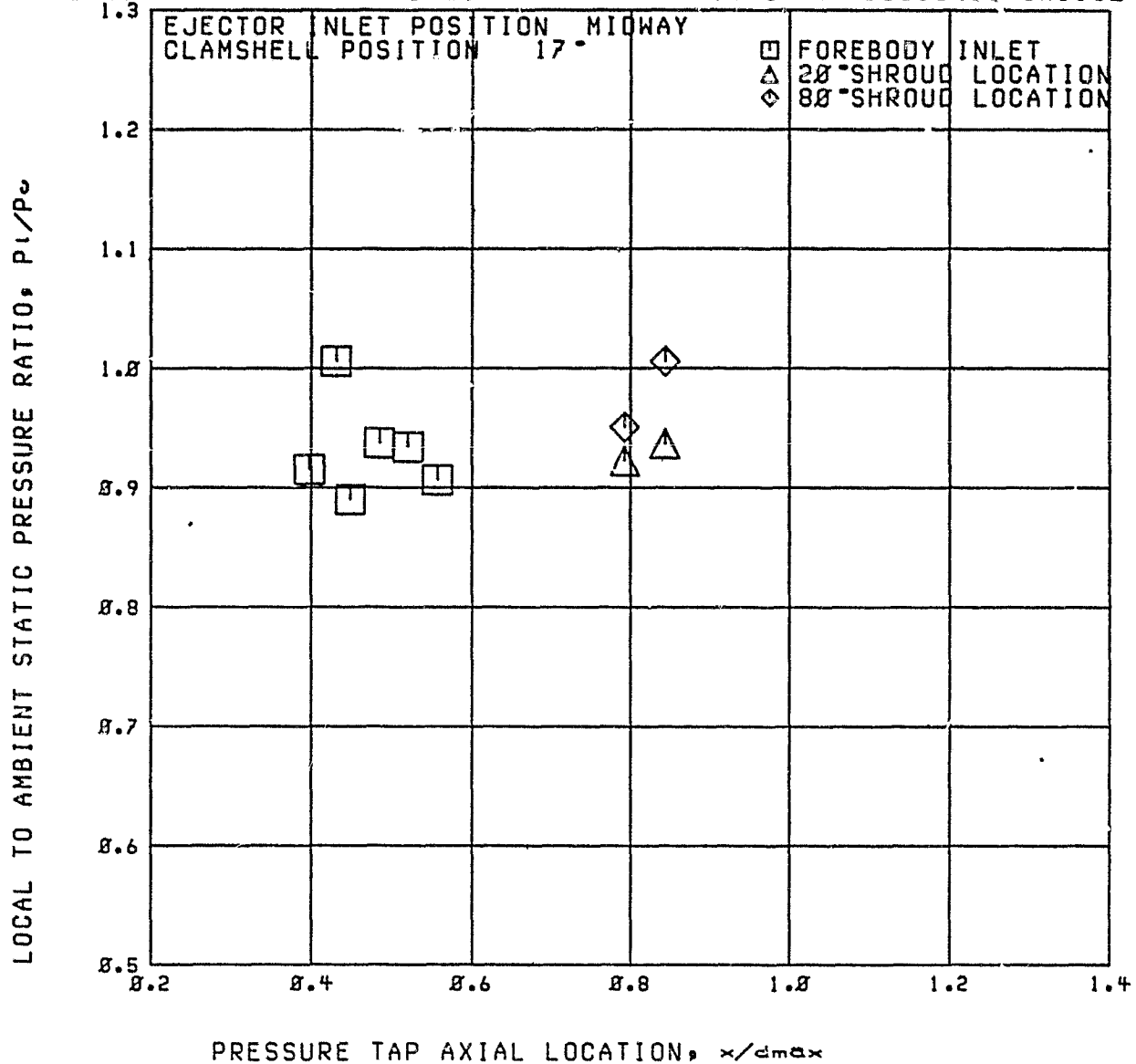
RUN 45

RDG=2257

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.56$   $P_{tr}/P_o = 5.354$   $P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE



ORIGINAL PAGE IS  
OF POOR QUALITY

RUN 45

C2

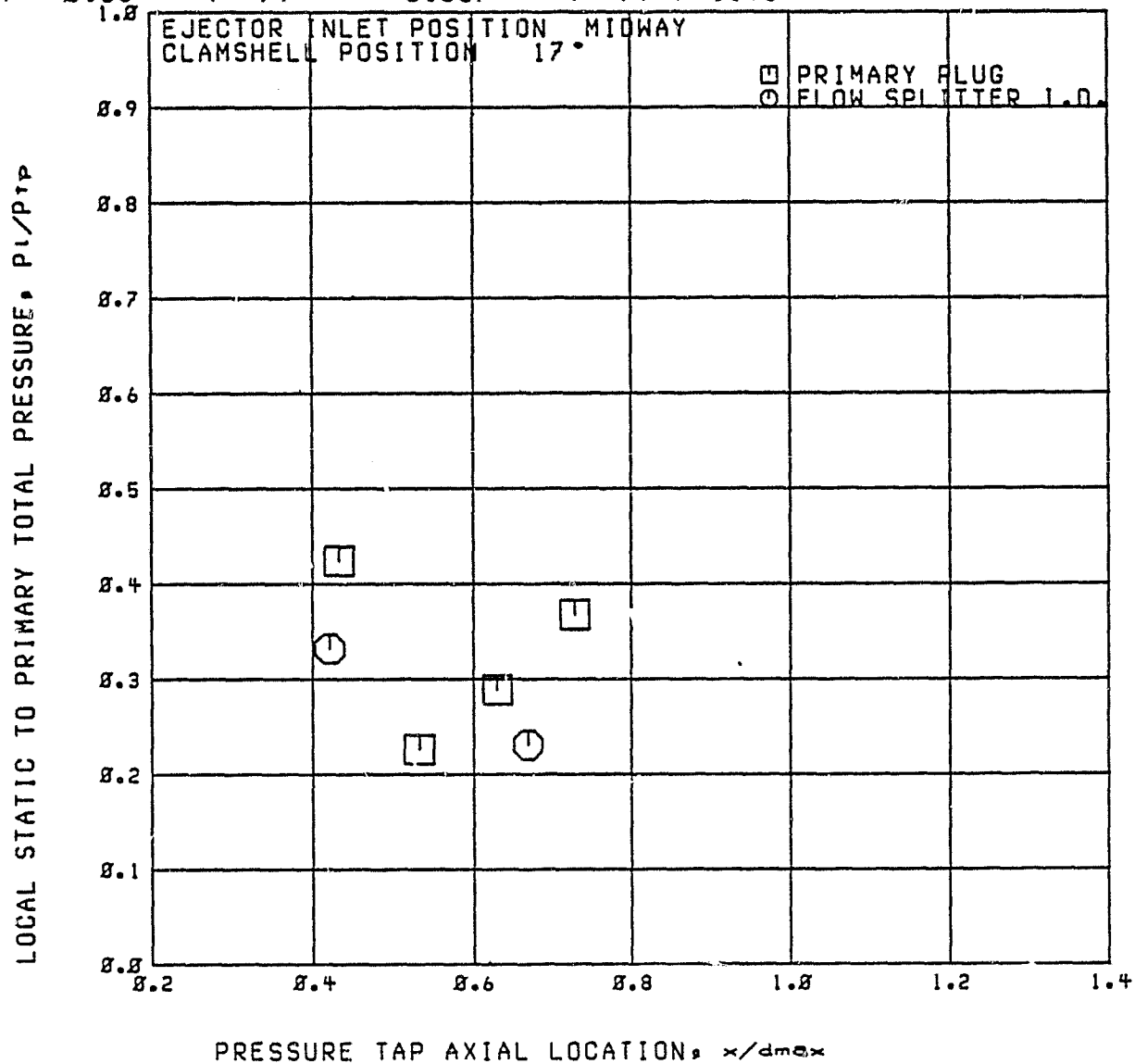
RDG=2262

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.36$

$P_{tr}/P_0 = 5.367$

$P_{tr}/P_{tp} = 1.98$



RUN 45

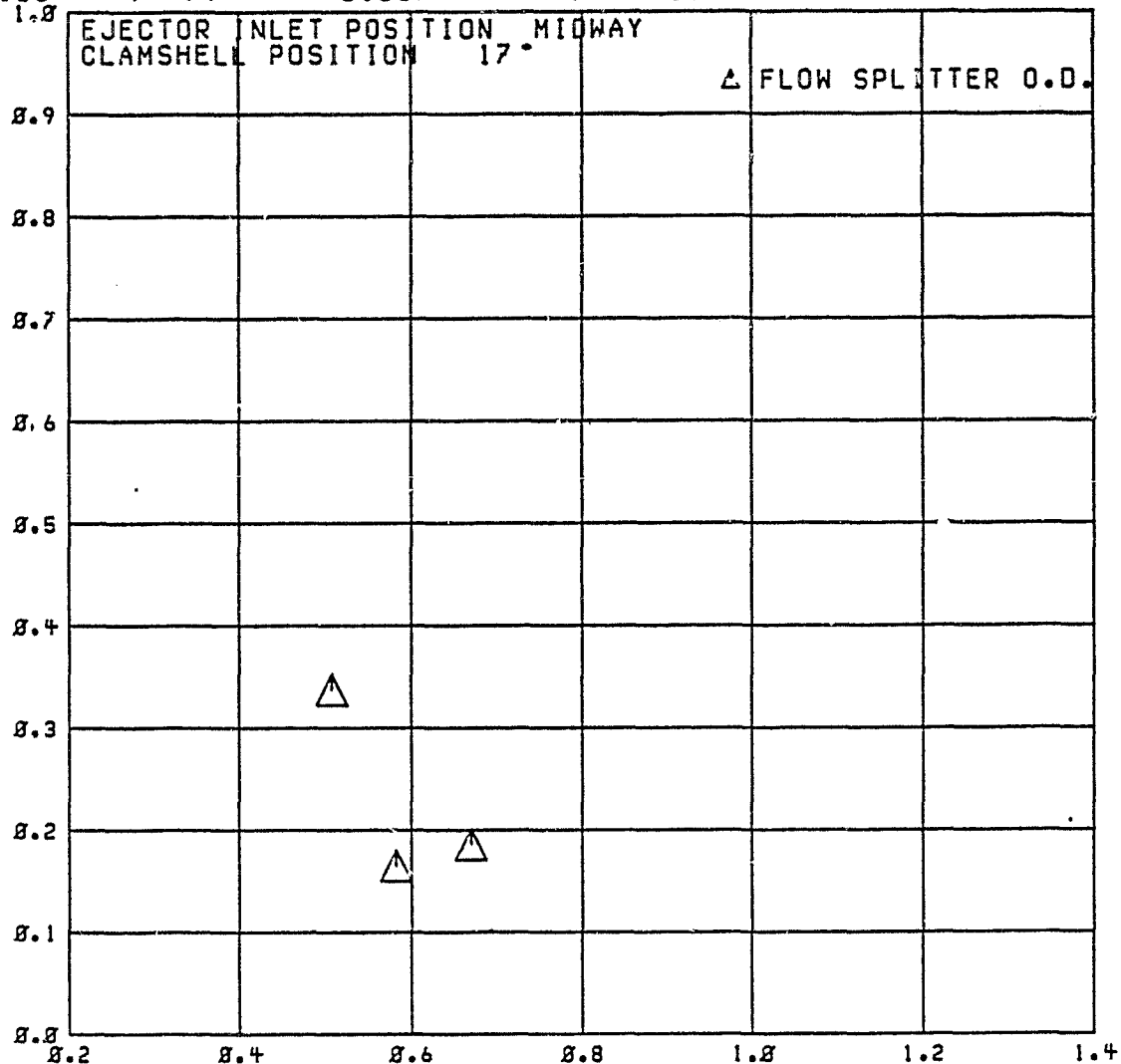
C2

RDG=2262

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.36$        $P_{tr}/P_0 = 5.367$        $P_{tr}/P_{tp} = 1.98$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$



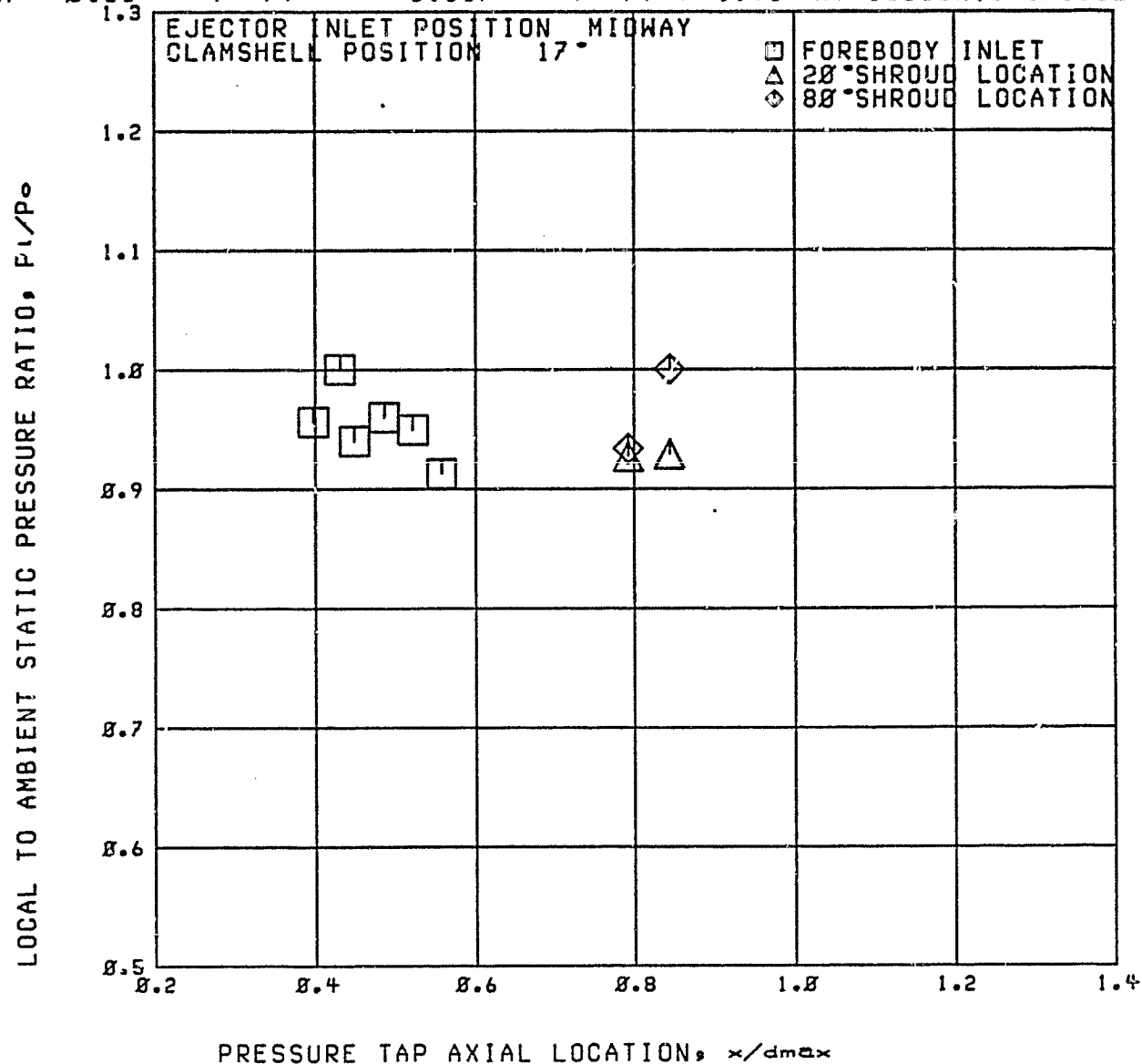
RUN 45

RDG=2262

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.36$   $P_{tr}/P_o = 5.367$   $P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE



RD'G. 2265-2292

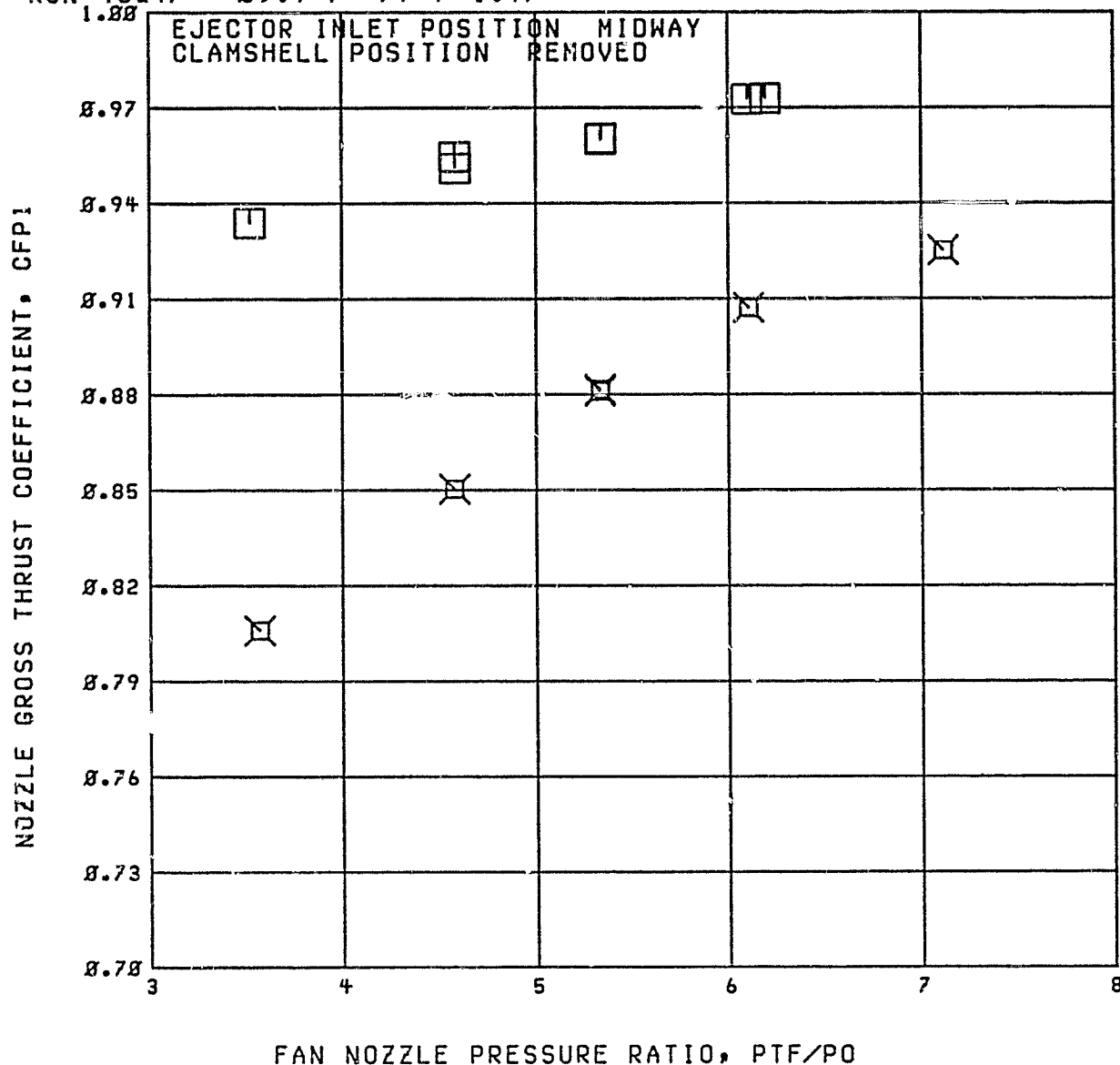
C2

SUBSONIC CRUISE

$M_0 =$

$\square = 0.8$   
 $\boxtimes = 0.98$

RUN 46&47  $0.9 P_{tr}/P_{tp}=1.97$



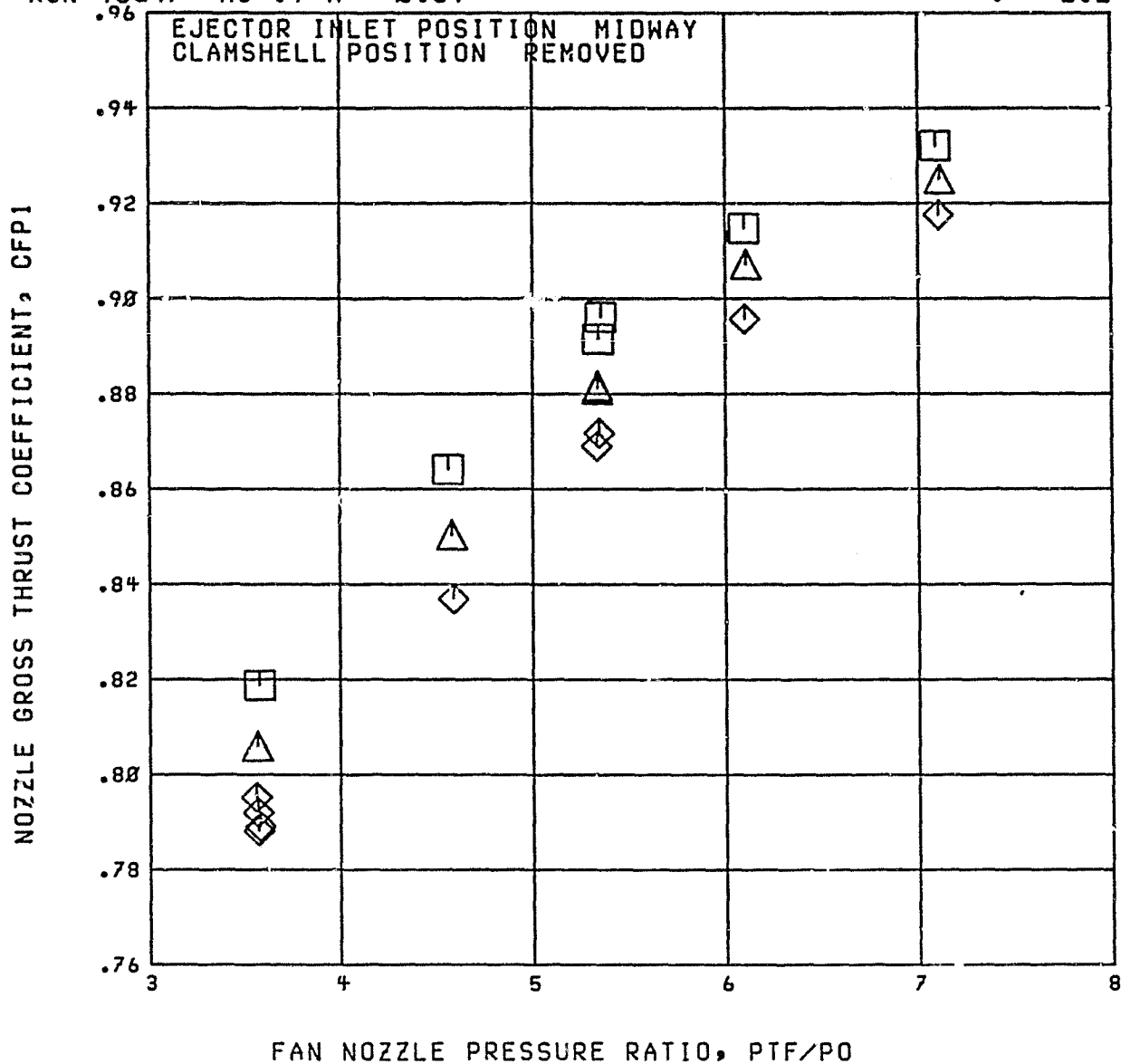
RDG. 2265-2292

C2

SUBSONIC CRUISE

RUN 46&47  $M_0 = .9$   $M_0 = 0.89$

$P_{tr}/P_{tp} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$



RDG, 2265-2292

C2

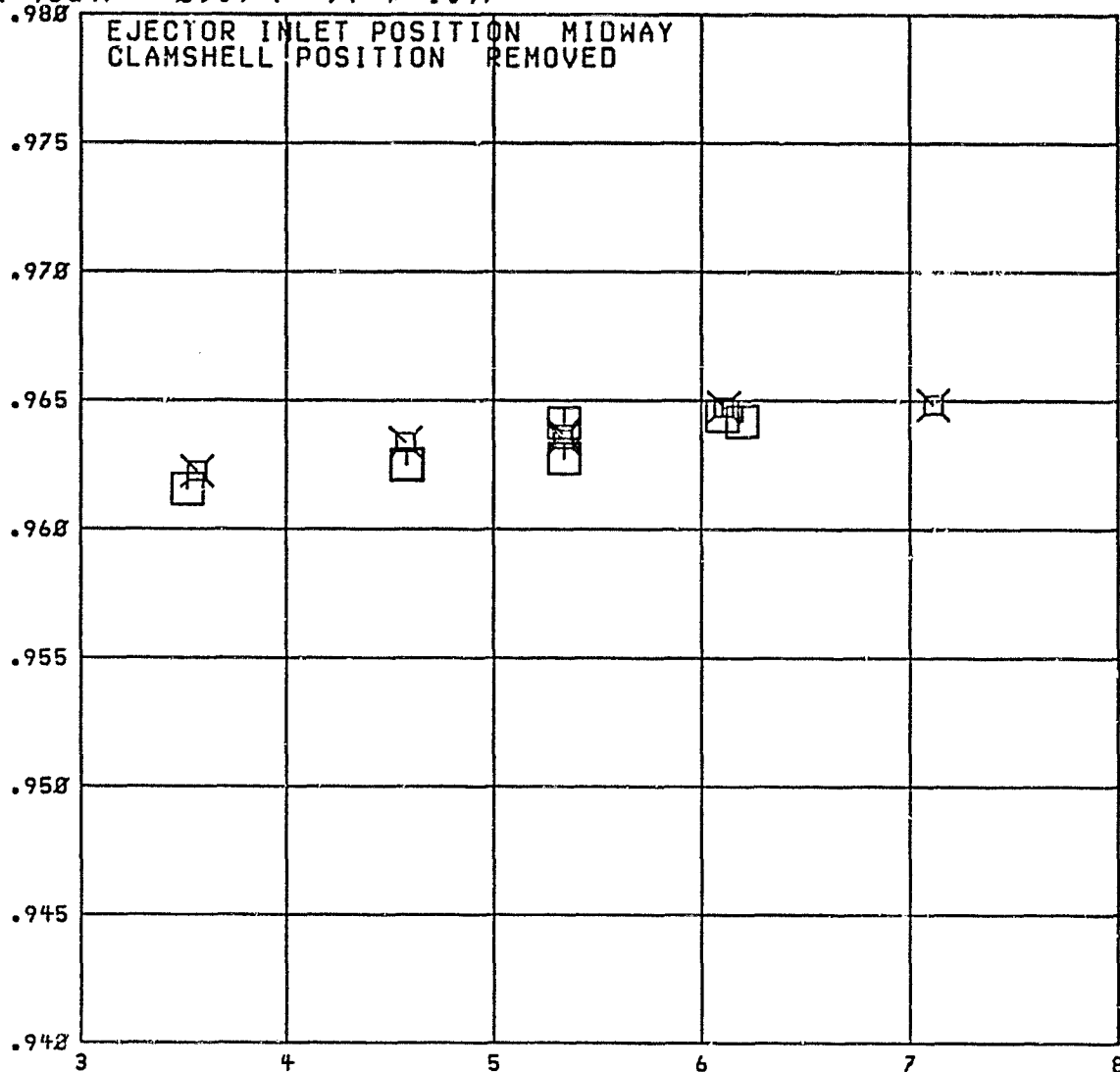
SUBSONIC CRUISE

RUN 46&47  $M = 0.9$   $P_{tr}/P_{tp} = 1.97$

$M =$

$\square = 0.8$   
 $\boxtimes = 0.98$

FAN-NOZZLE FLOW COEFFICIENT, CDF



FAN NOZZLE PRESSURE RATIO, PTF/PO

RDG. 2265-2292

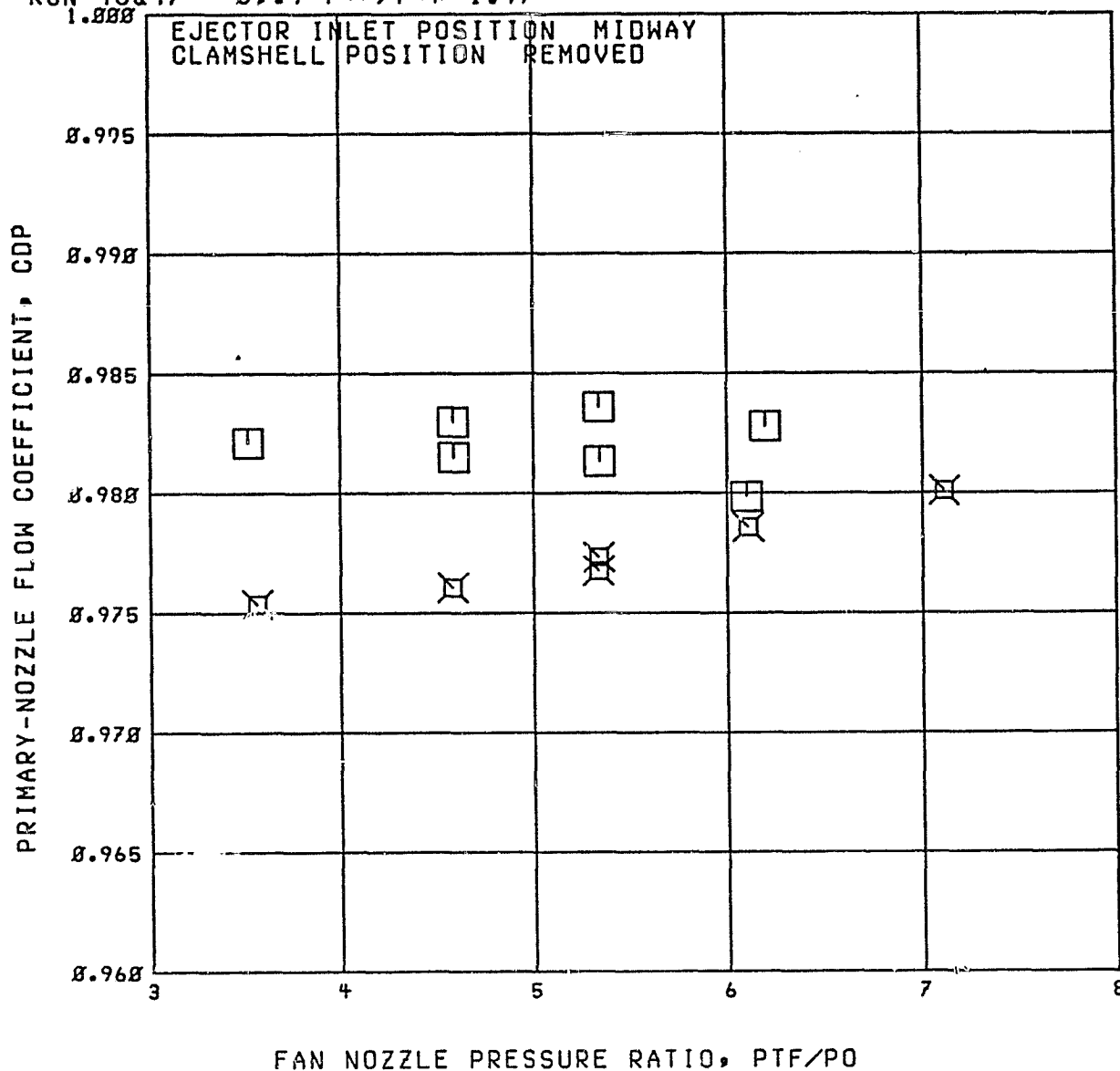
C2

SUBSONIC CRUISE

$M_0 =$

$\square = 0.8$   
 $\times = 0.98$

RUN 46&47  $0.9 P_{tr}/P_{tp}=1.97$



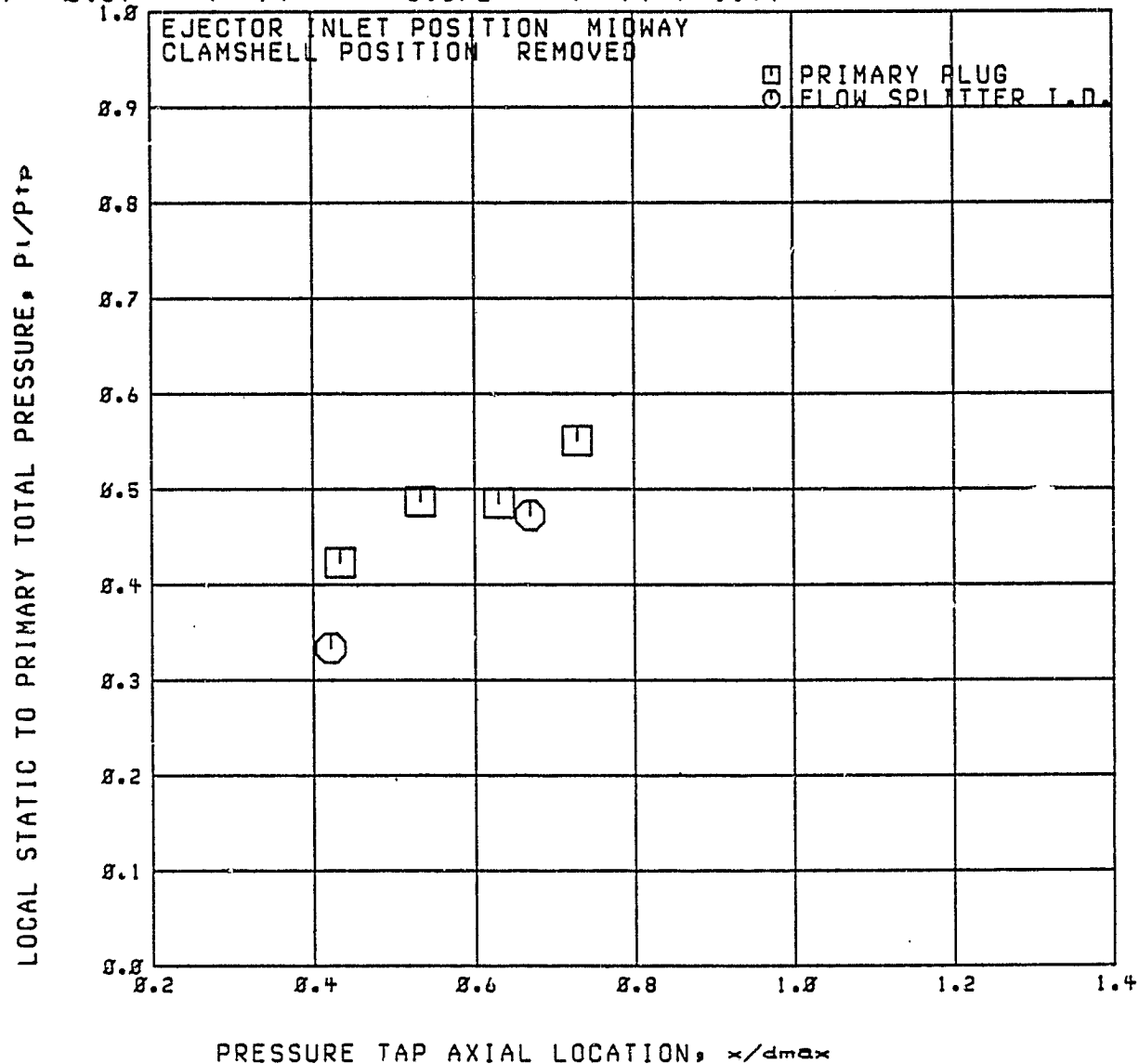
RUN 46

RDG=2273

C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$   $P_{tr}/P_o = 3.572$   $P_{tr}/P_{tp} = 1.94$



RUN 46

RDG=2273

C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_{02} = 3.572$

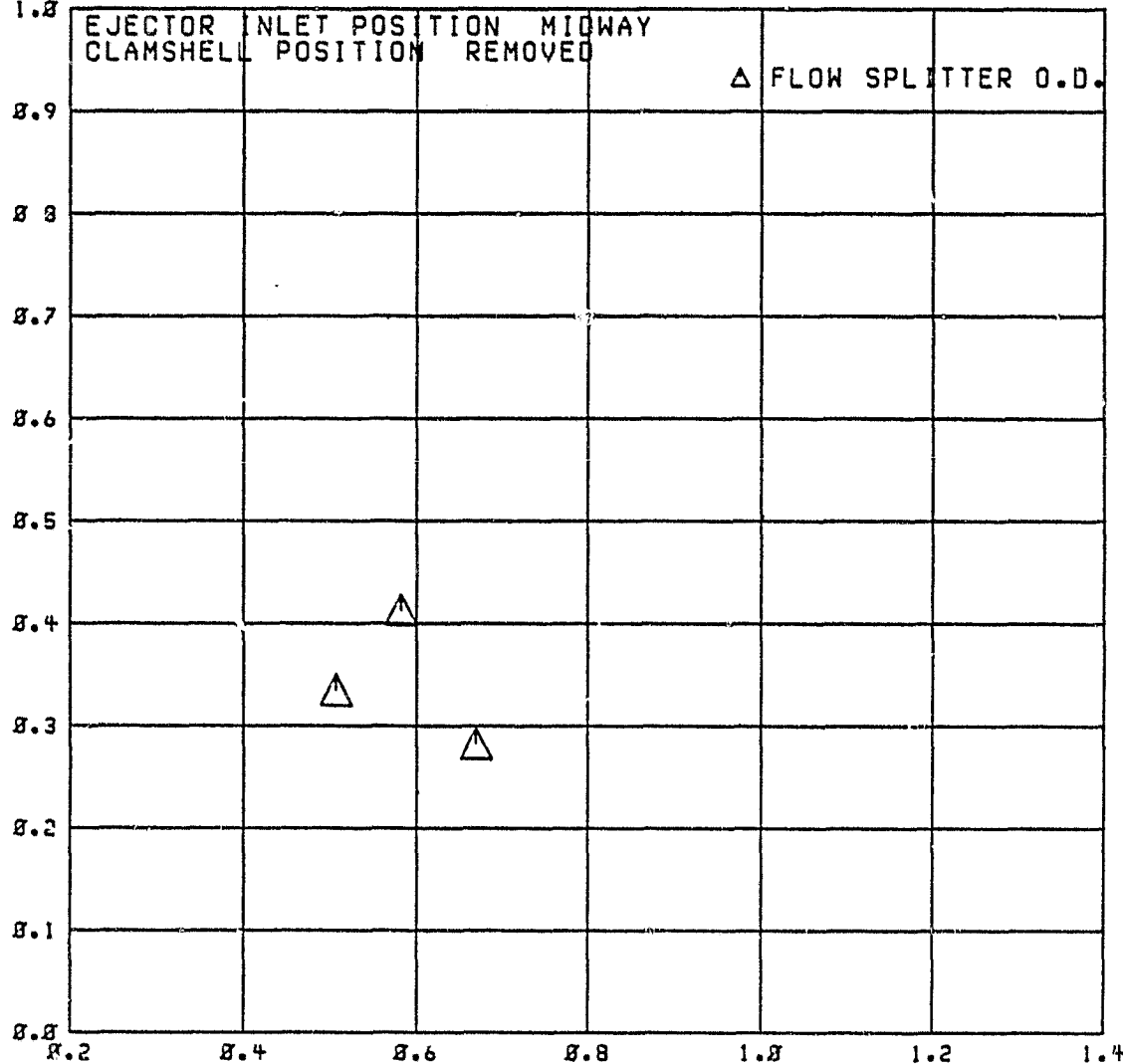
$P_{tr}/P_{tp} = 1.94$

1.8

EJECTOR INLET POSITION MIDWAY  
CLAMSHELL POSITION REMOVED

△ FLOW SPLITTER O.D.

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_1/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

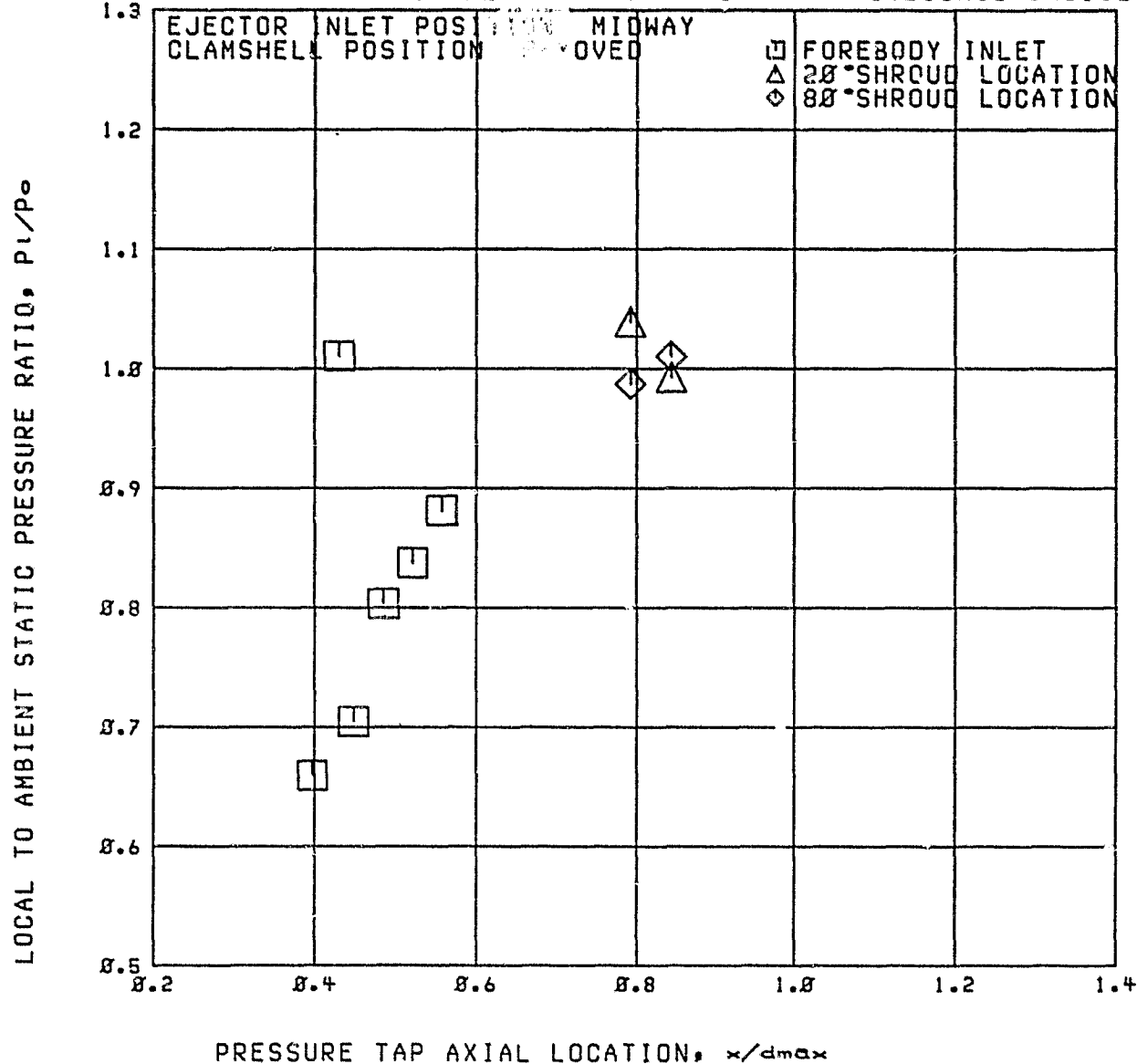
RUN 46

RDG=2273

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 3.572$   $P_{tr}/P_{tp} = 1.94$  AT SUBSONIC CRUISE





RUN 46

C2

RDG-2274

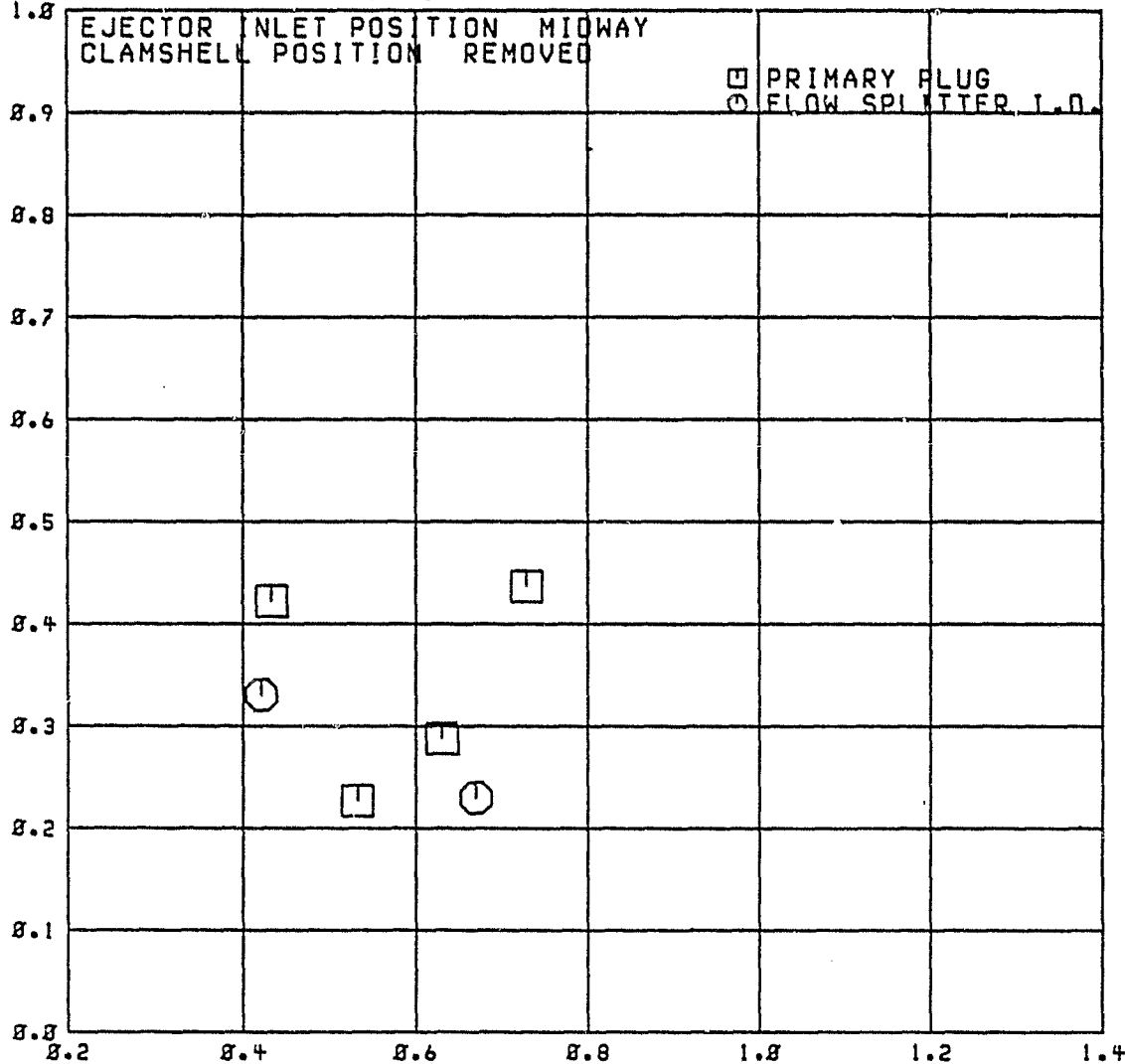
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 = 4.588$

$P_{tr}/P_{tr} = 1.98$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 46

C2

RDG=2274

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

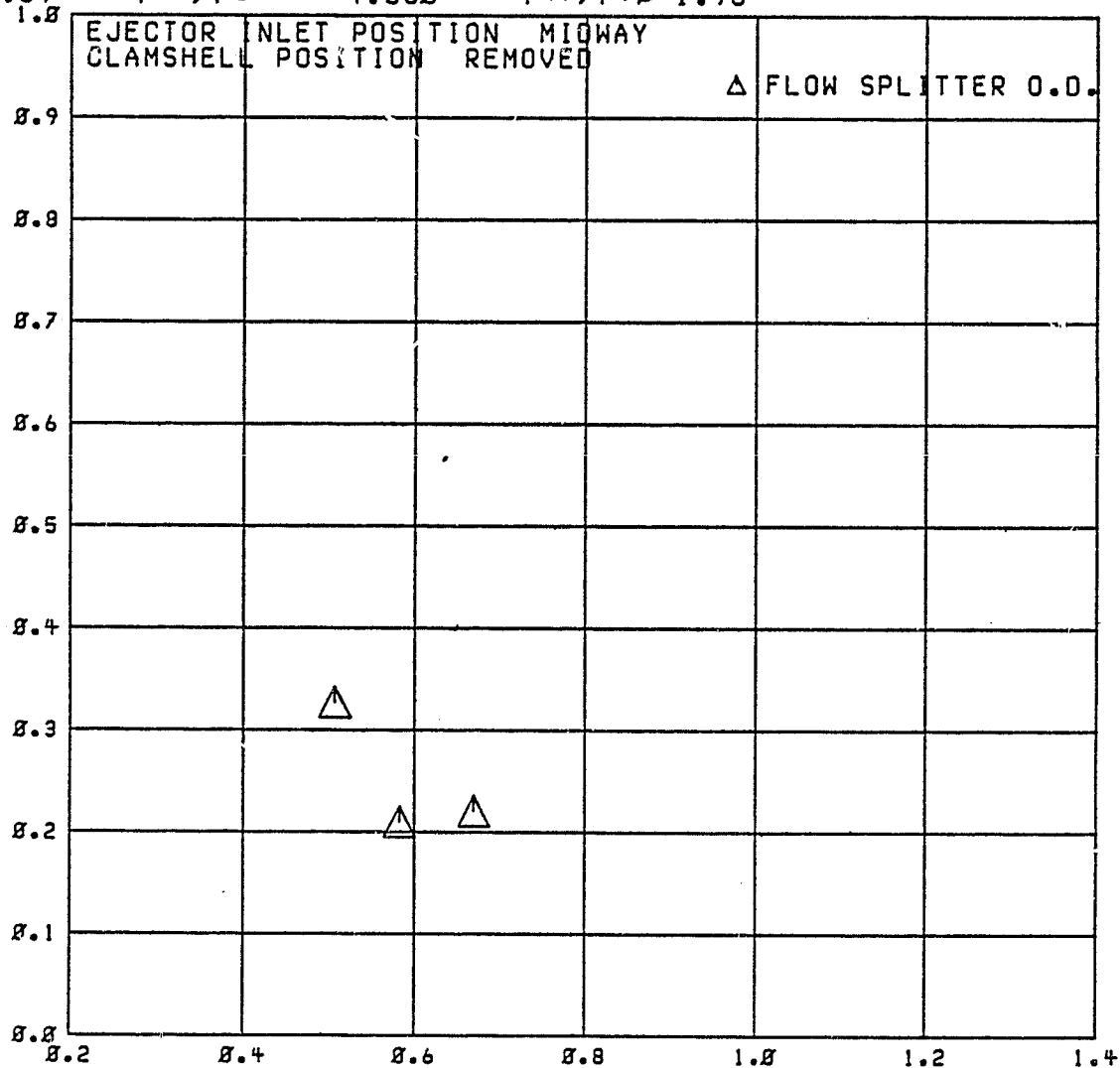
$M_0 = 0.89$

$P_{tr}/P_0 =$

4.580

$P_{tr}/P_{tp} = 1.98$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

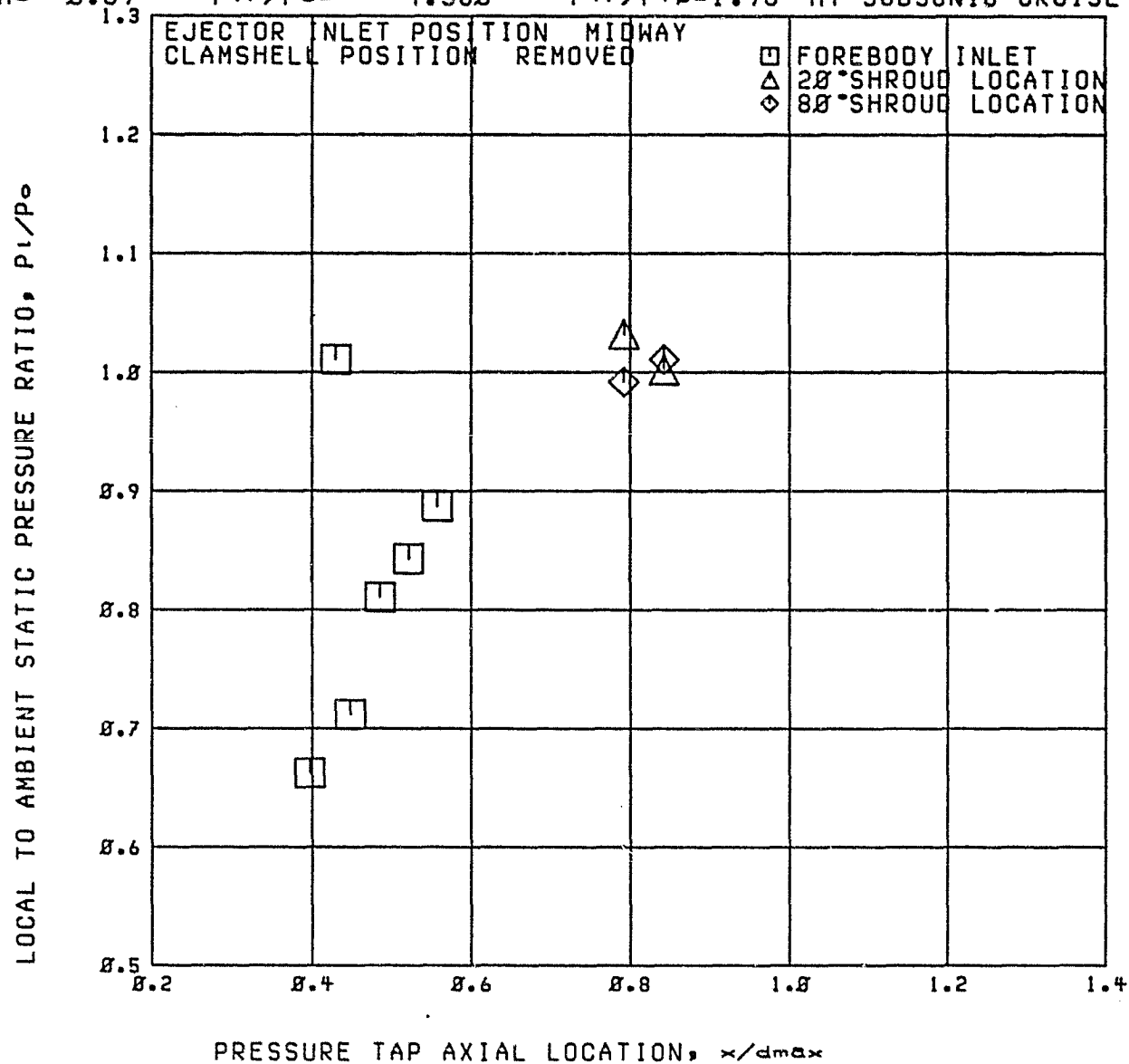
Run 46

RDG=2274

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.89$   $P_{tr}/P_0 = 4.580$   $P_{tr}/P_{tr} = 1.98$  AT SUBSONIC CRUISE



RUN 46

C2

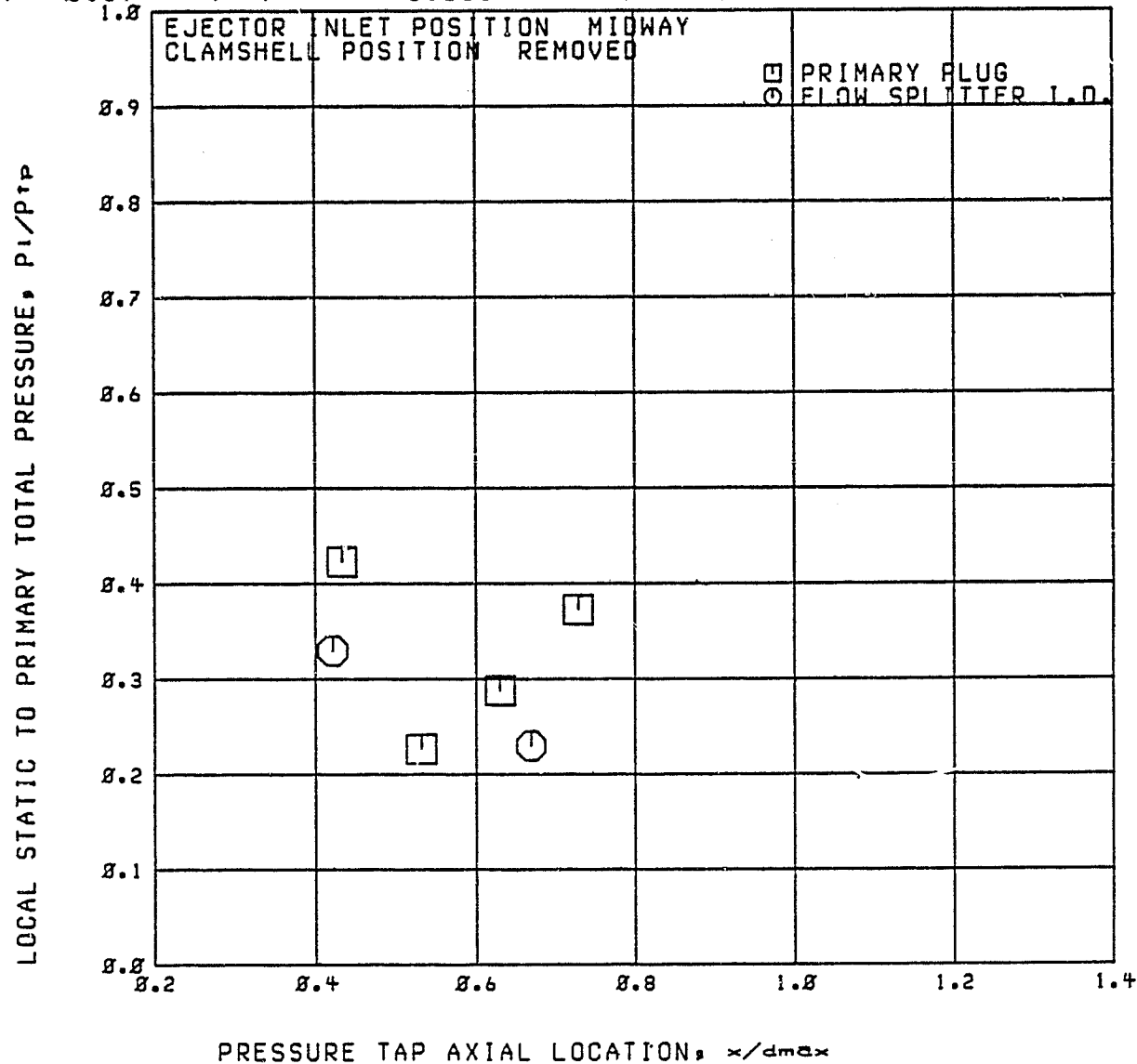
ROG=2275

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 = 5.336$

$P_{tr}/P_{tp} = 1.97$



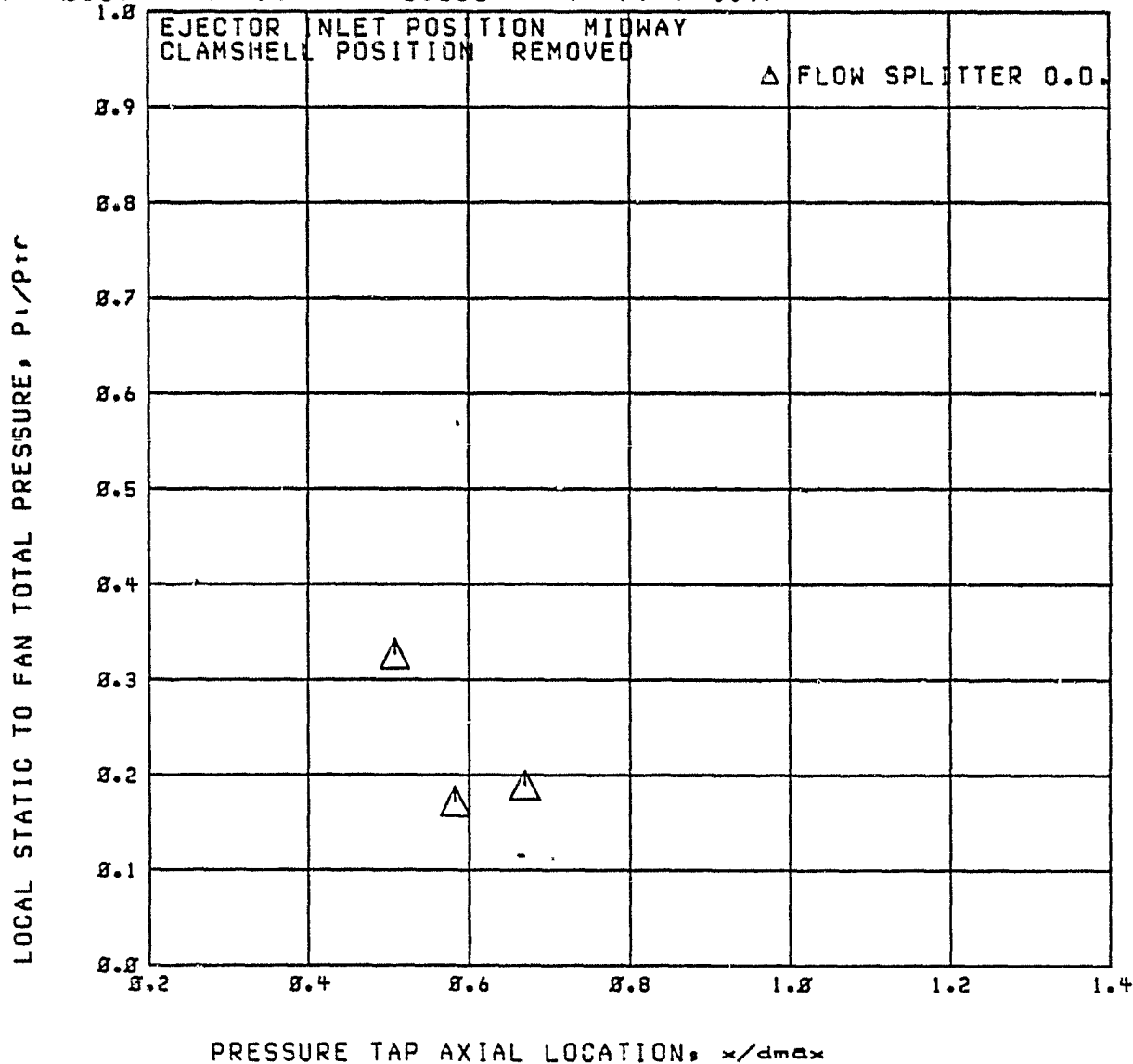
Run 46

C2

RDG=2275

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$   $P_{tr}/P_0 = 5.336$   $P_{tr}/P_{trp} = 1.97$



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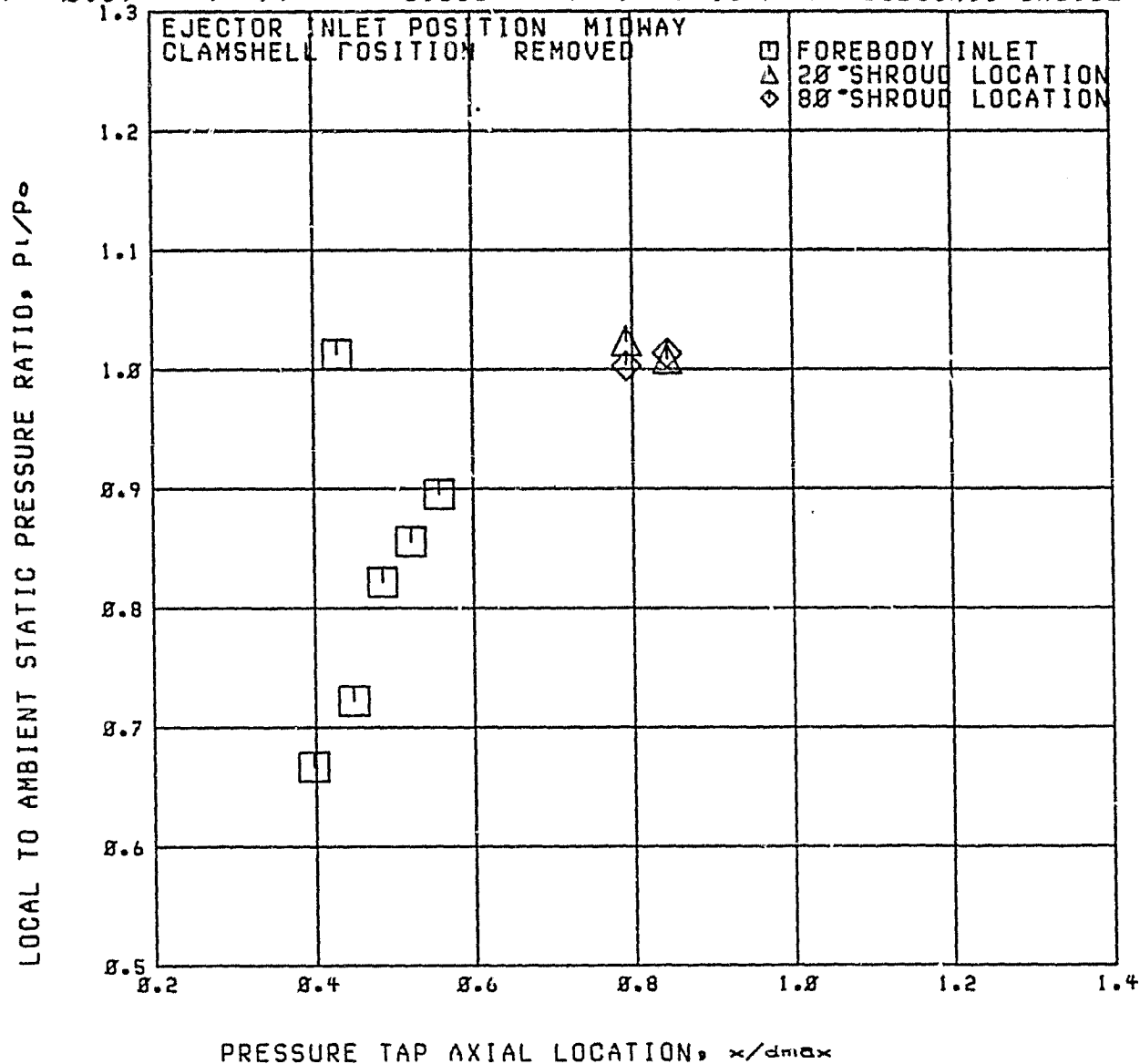
Run 46

RDG=2275

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.89$   $P_{tr}/P_0 = 5.336$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



RUN 46

C2

RDG=2276

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

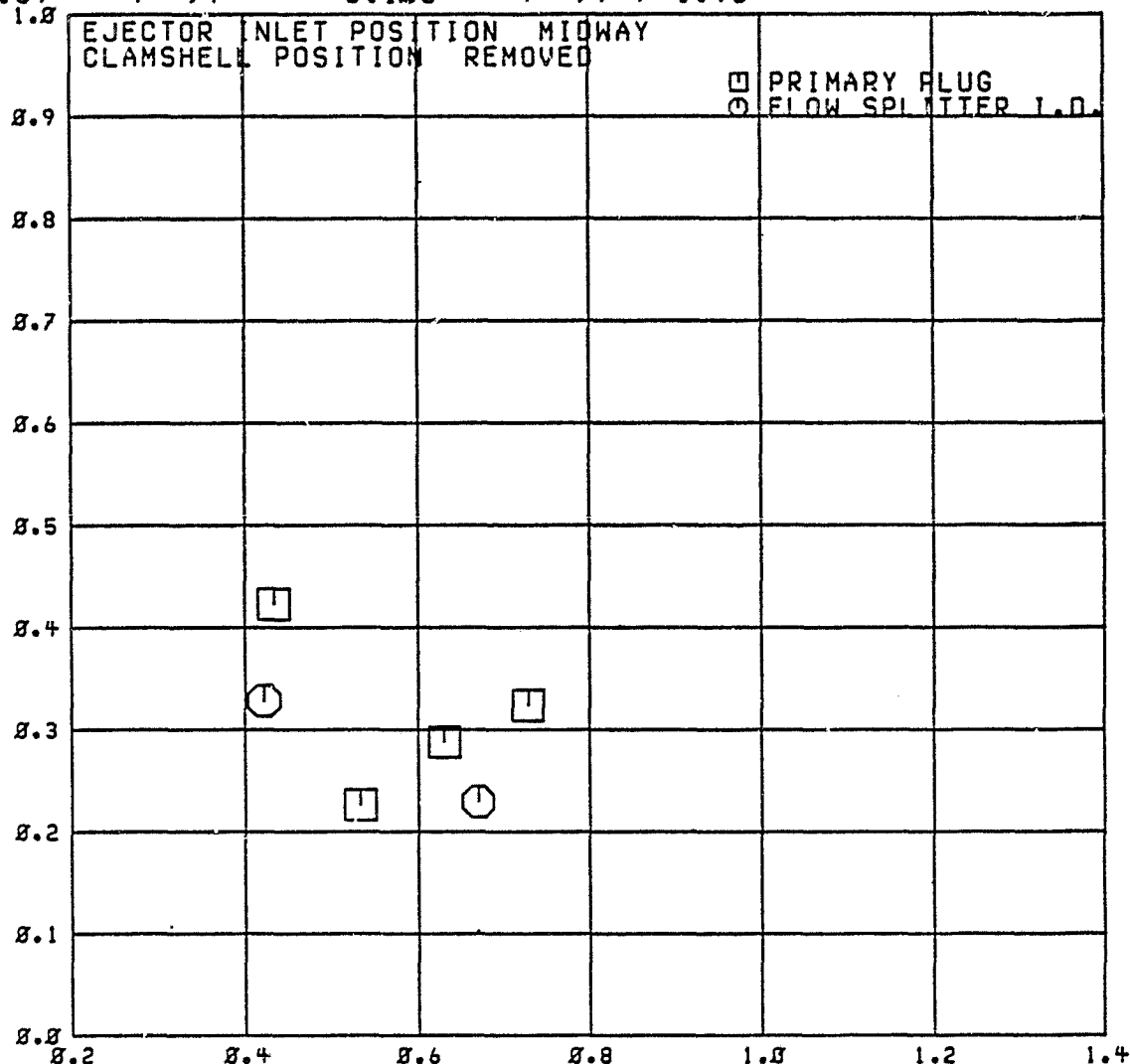
$M_0 = 0.89$

$P_{tr}/P_0 =$

6.108

$P_{tr}/P_{tr} = 1.96$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

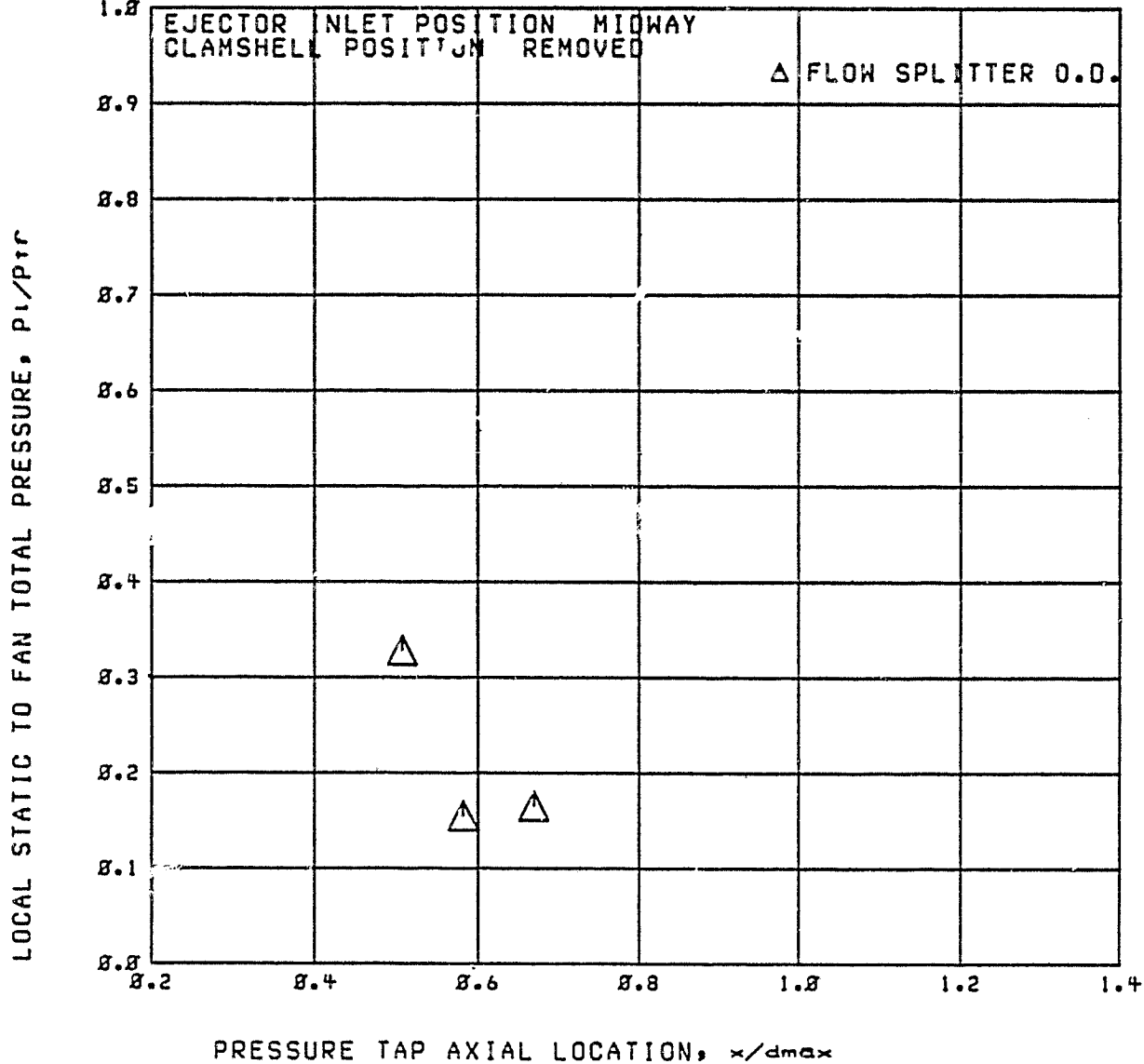
Run 46

C2

RDG=2276

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$      $P_{tr}/P_0 = 6.108$      $P_{tr}/P_{tp} = 1.96$





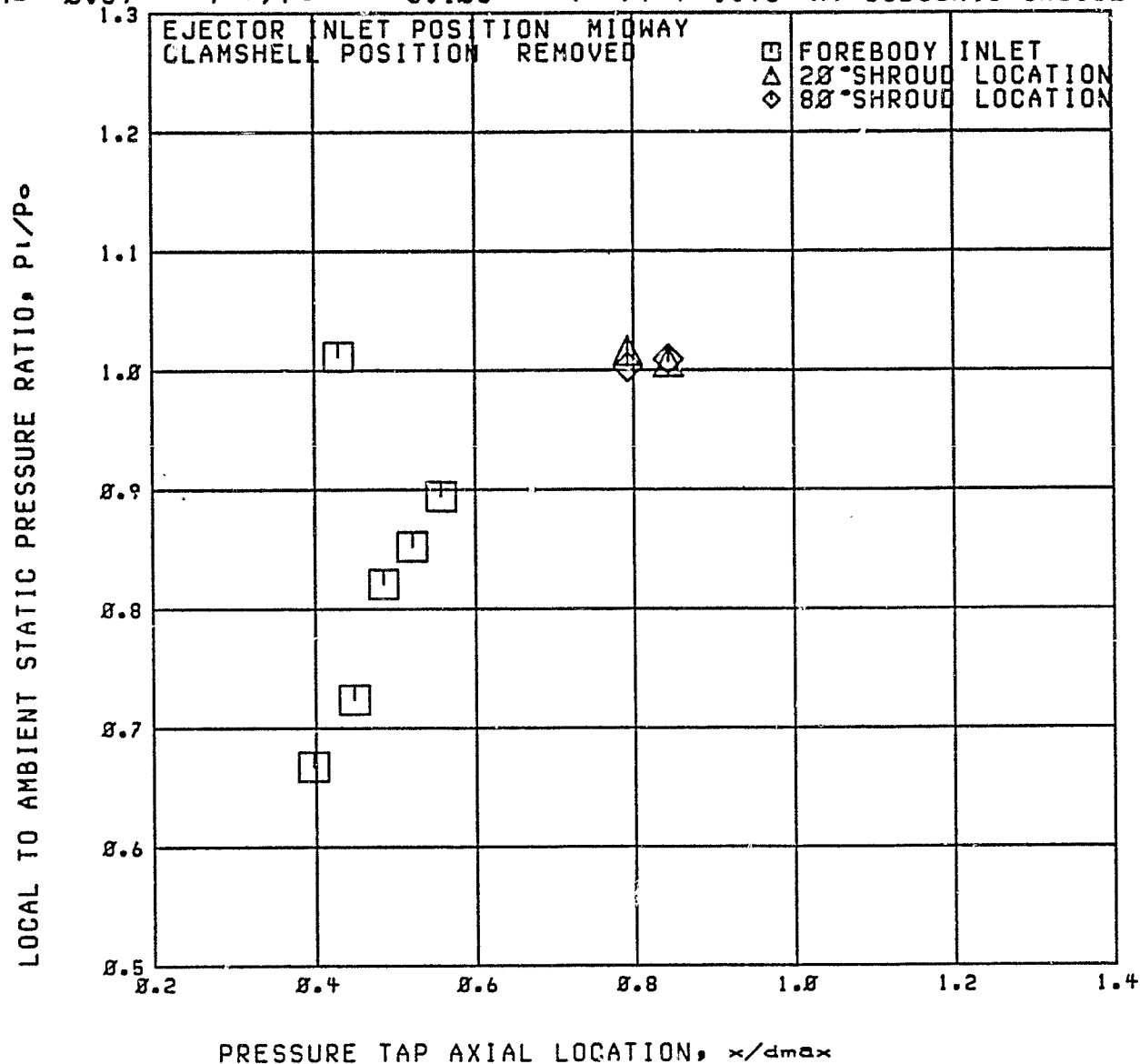
RUN 46

RDG=2276

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 6.108$   $P_{tr}/P_{tp} = 1.96$  AT SUBSONIC CRUISE



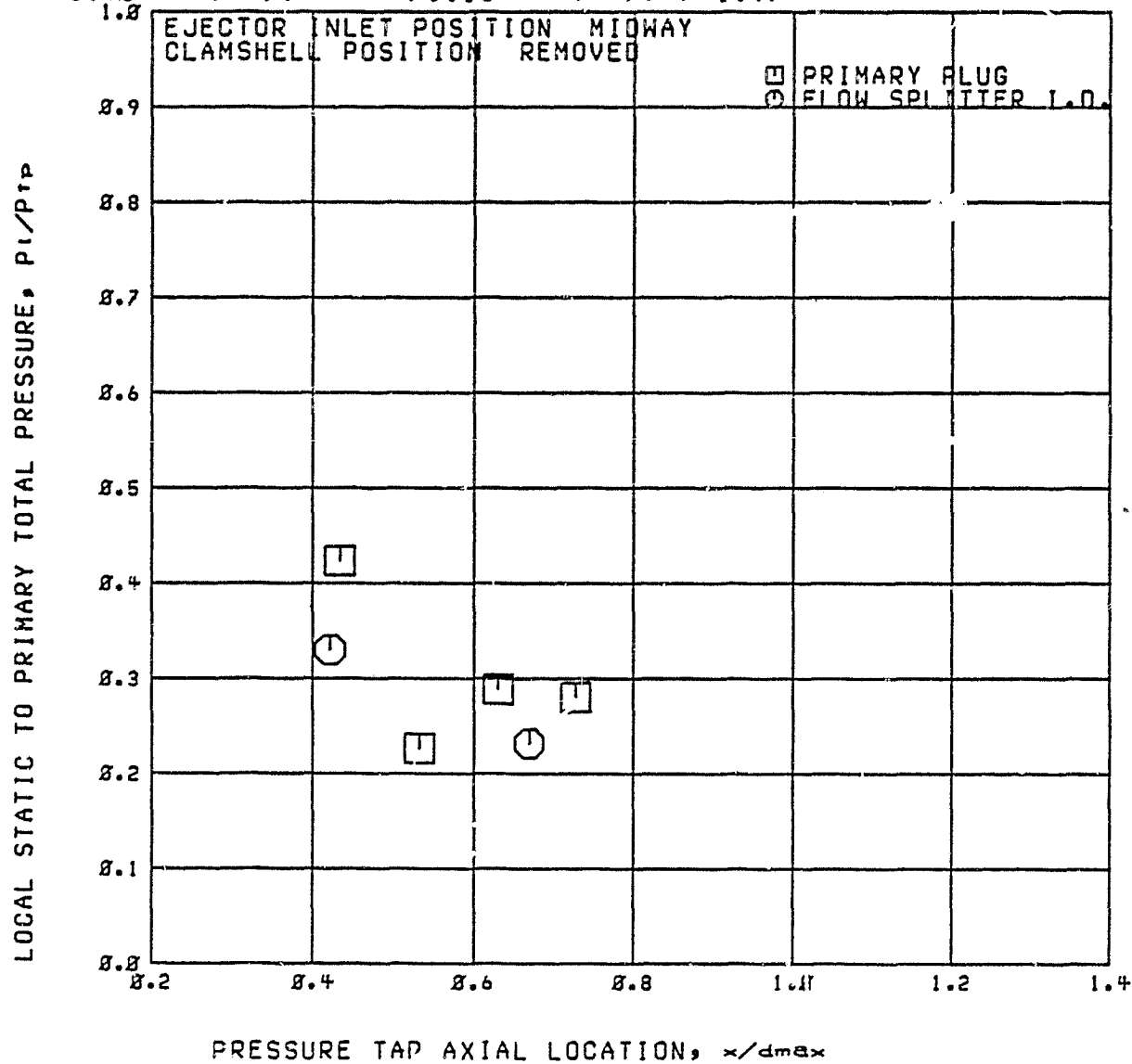
Run 46

C2

RDG=2277

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.90$   $P_{tr}/P_0 = 7.115$   $P_{tr}/P_{tp} = 1.97$



RUN 46

RDG=2277

C2

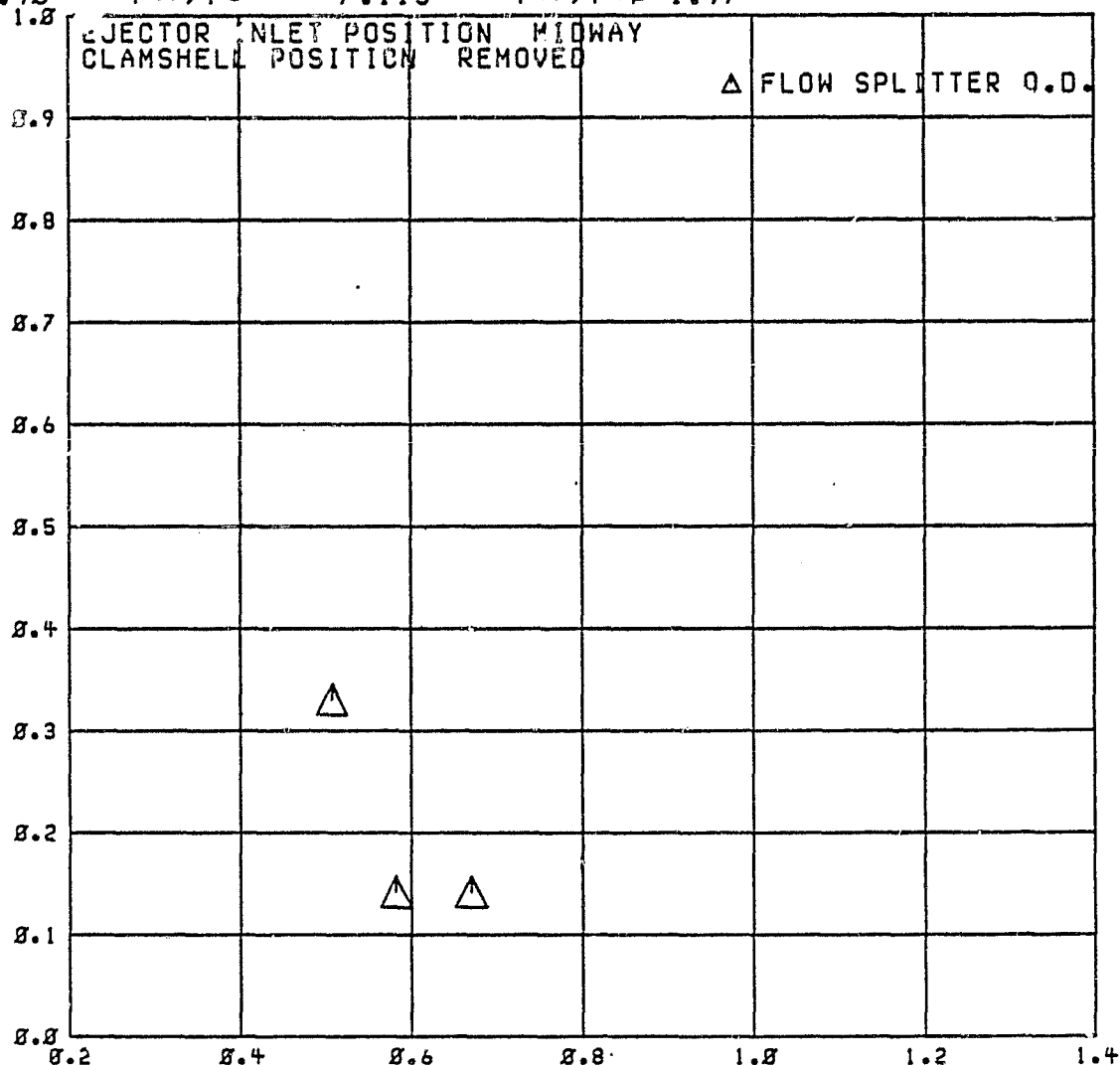
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$

$P_{tr}/P_0 = 7.115$

$P_{tr}/P_{tp} = 1.97$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_t/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

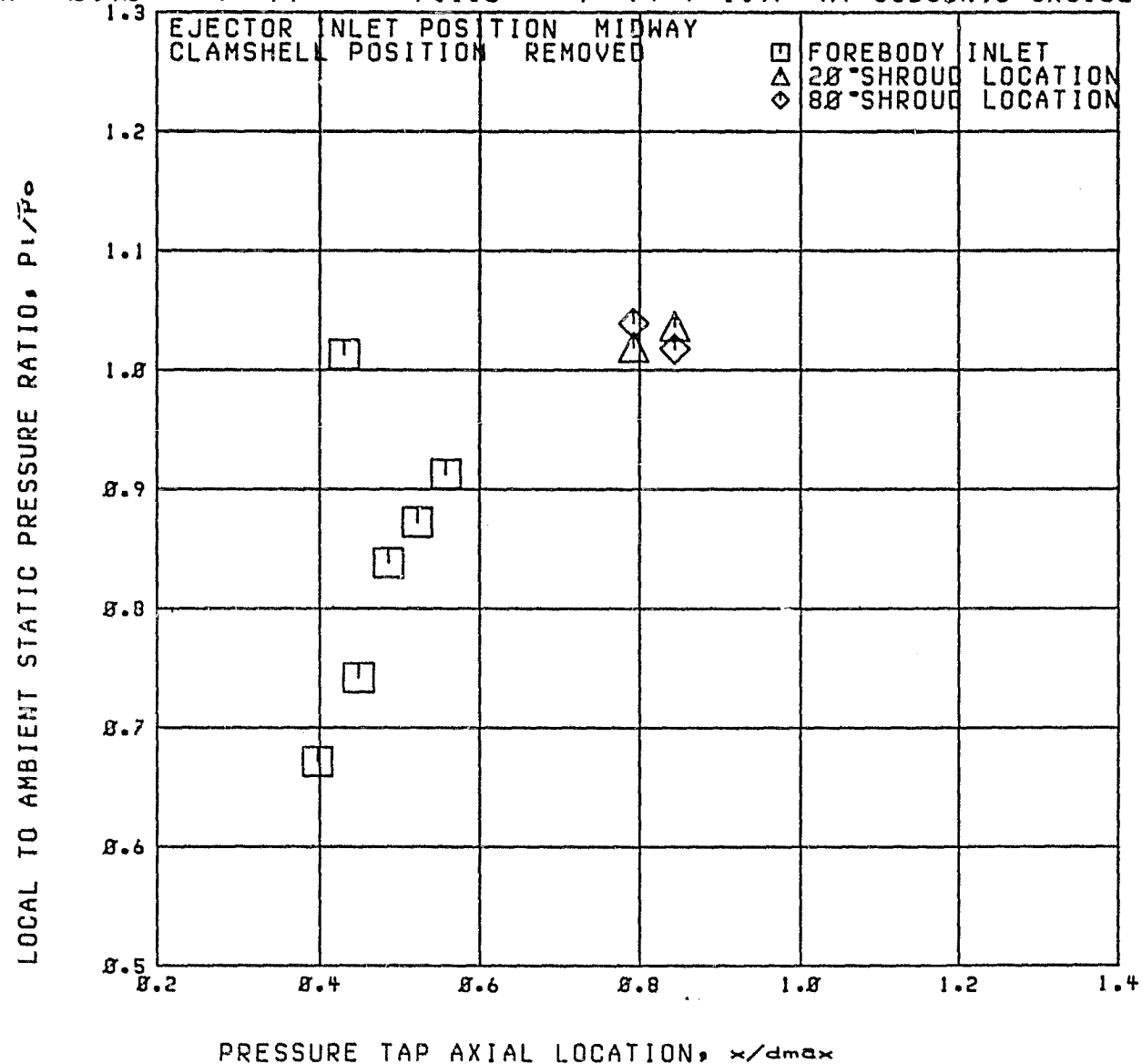
Run 46

C2

RDG=2277

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.98$   $P_{tr}/P_0 = 7.115$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



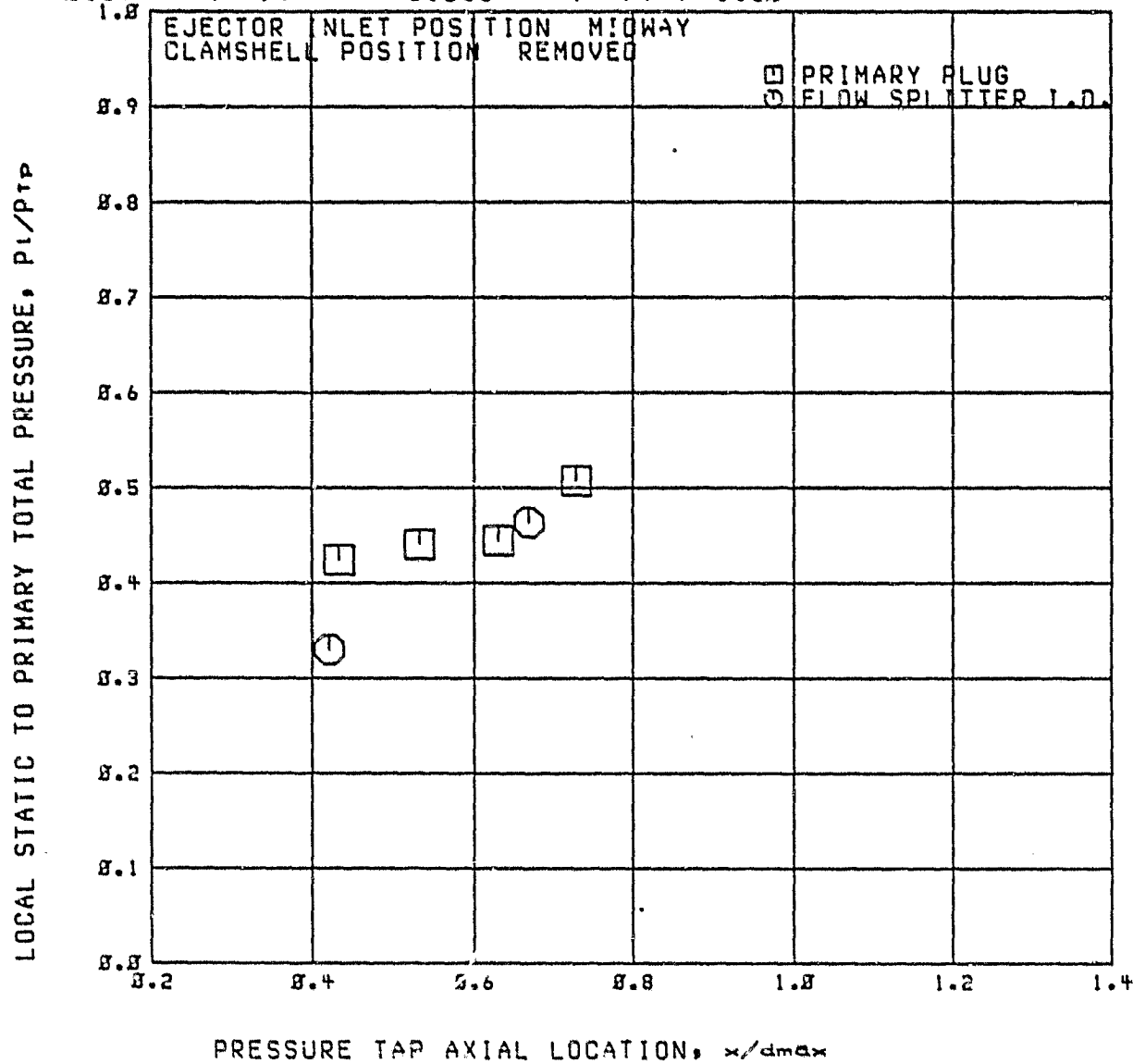
RUN 47

C2

RDG=2279

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_\infty = 0.89$   $P_{tr}/P_\infty = 3.583$   $P_{tr}/P_{tp} = 1.80$



Run 47

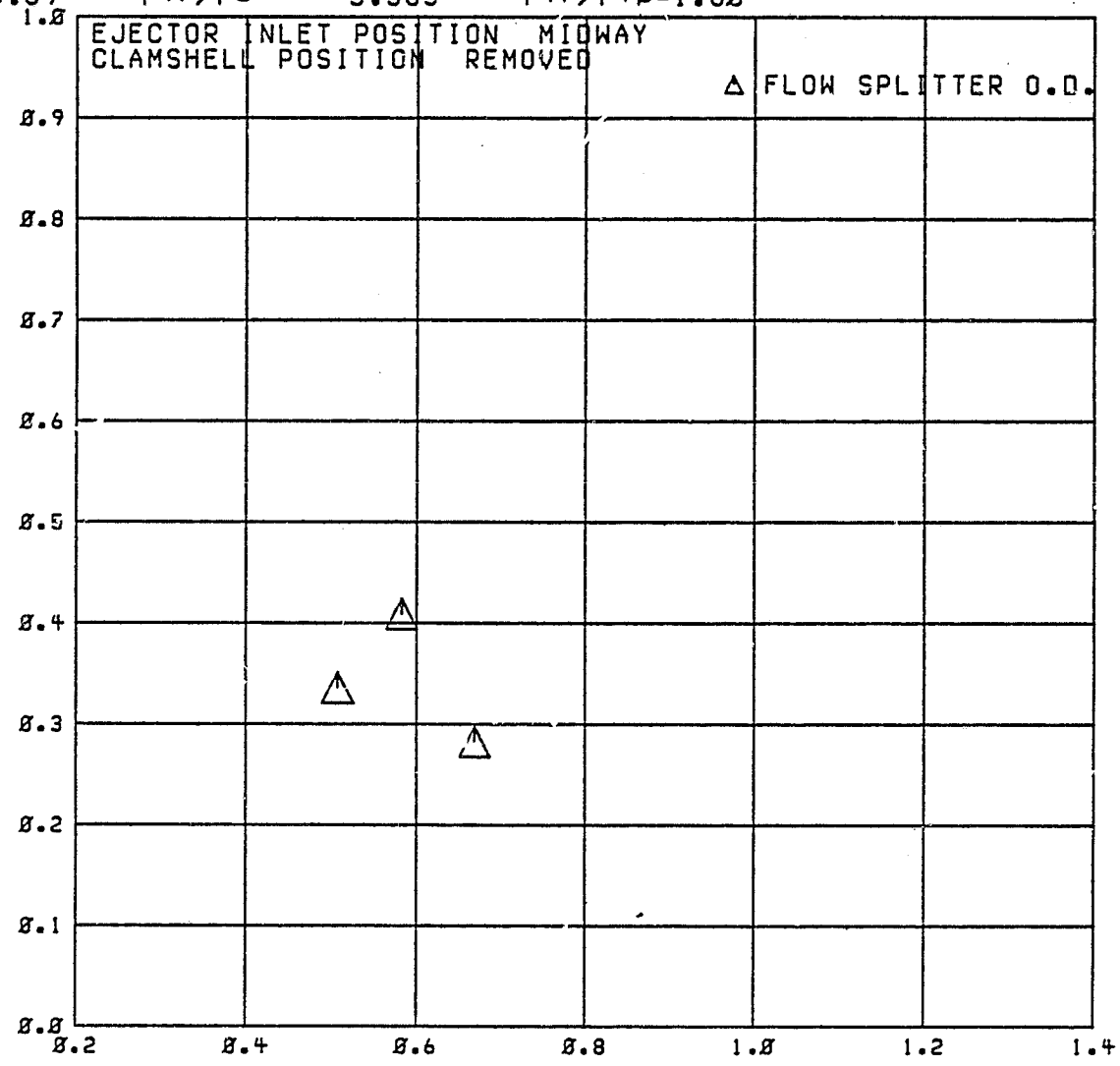
RDG=2279

C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$   $P_{tr}/P_0 = 3.583$   $P_{tr}/P_{tp} = 1.80$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

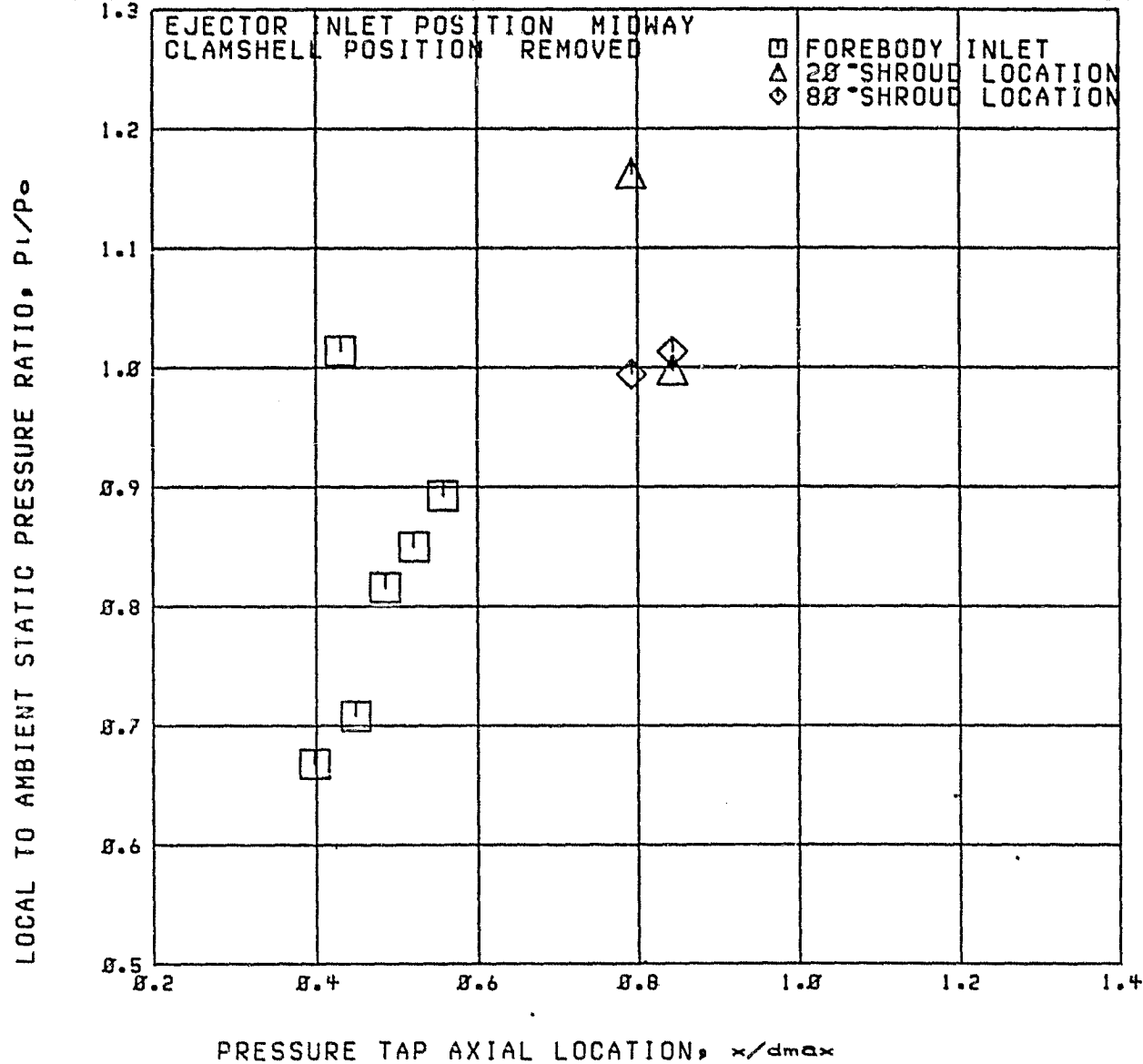
RUN 47

RDG=2279

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 3.583$   $P_{tr}/P_{tp} = 1.80$  AT SUBSONIC CRUISE



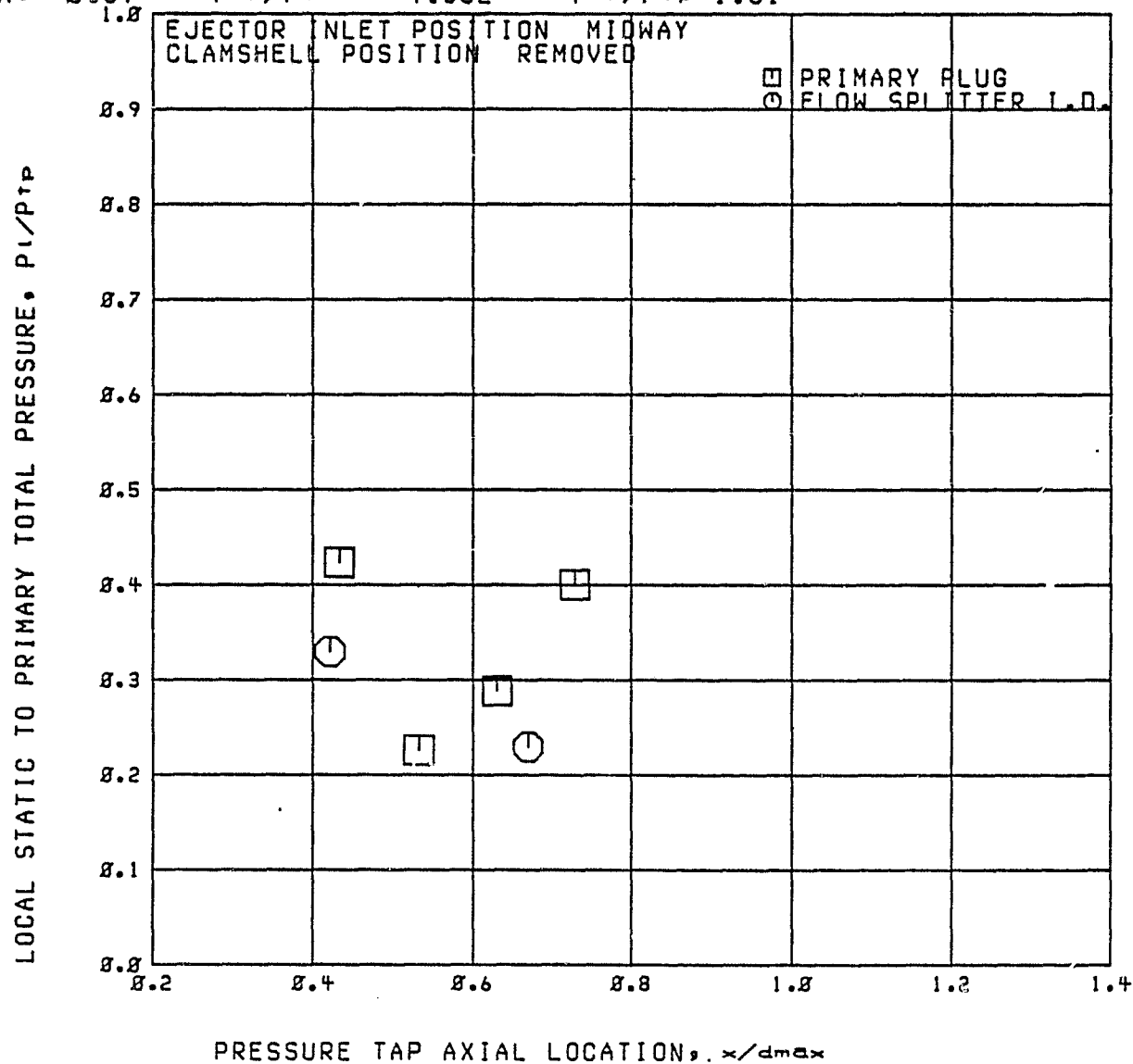
Run 47

C2

RDG=2288

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$   $P_{tr}/P_o = 4.562$   $P_{tr}/P_{tp} = 1.81$



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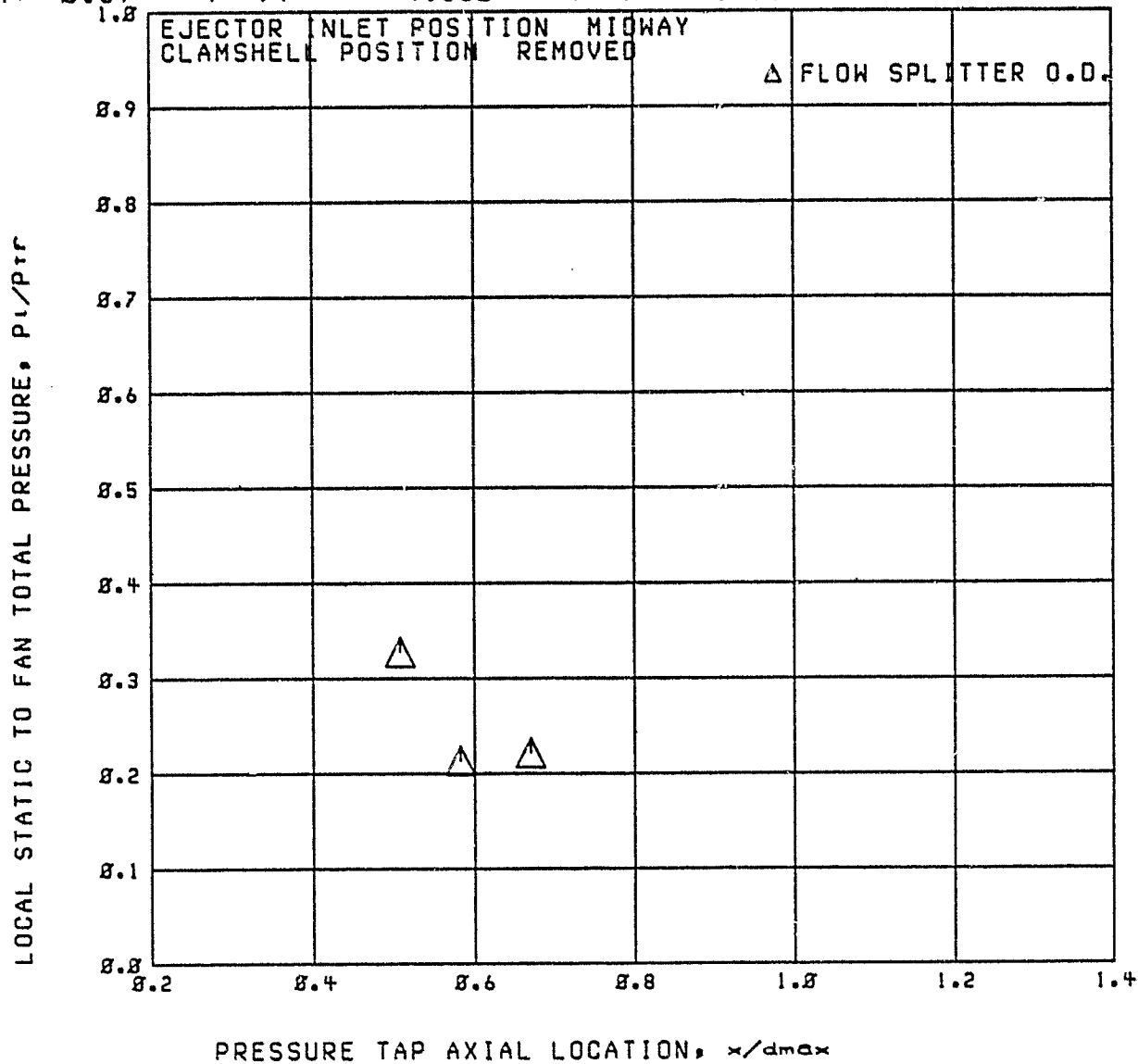
Run 47

C2

RDG=2280

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M = 0.89$   $P_{tr}/P_o = 4.562$   $P_{tr}/P_{tp} = 1.81$



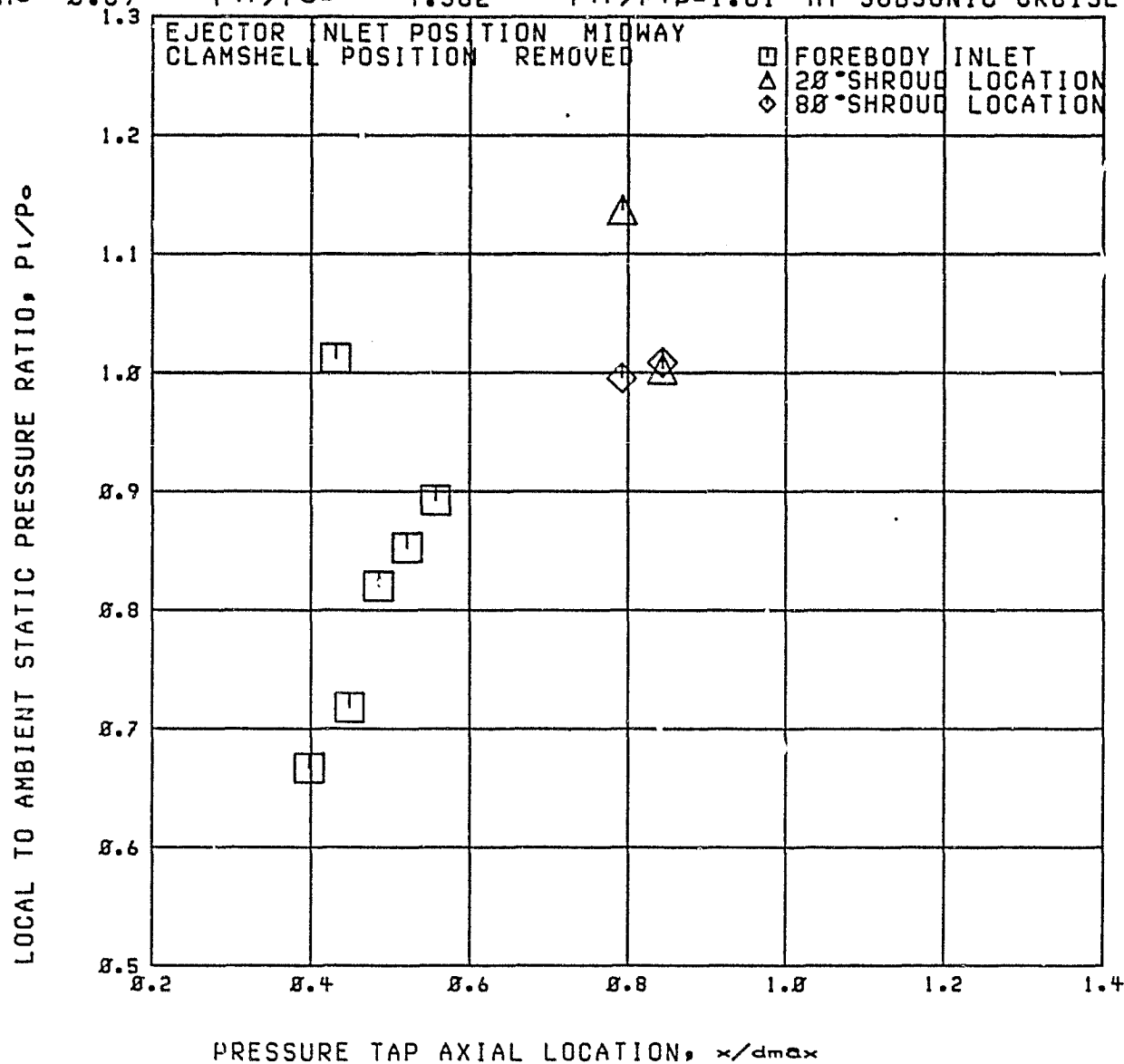
RUN 47

C2

RDG=2285

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 4.562$   $P_{tr}/P_{tp} = 1.81$  AT SUBSONIC CRUISE



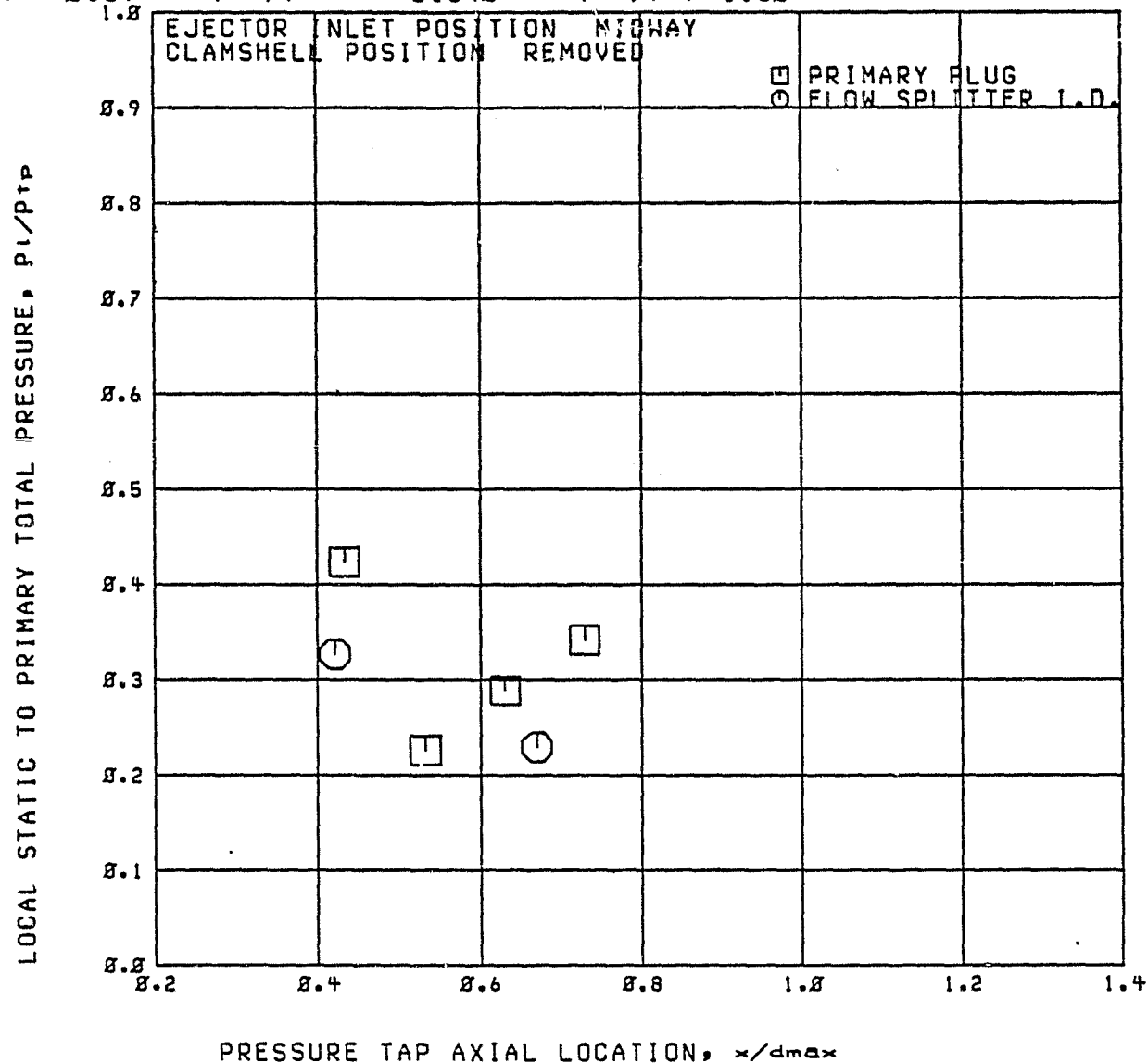
RUN 47

RDG=2281

C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$   $P_{tr}/P_o = 5.340$   $P_{tr}/P_{tp} = 1.80$



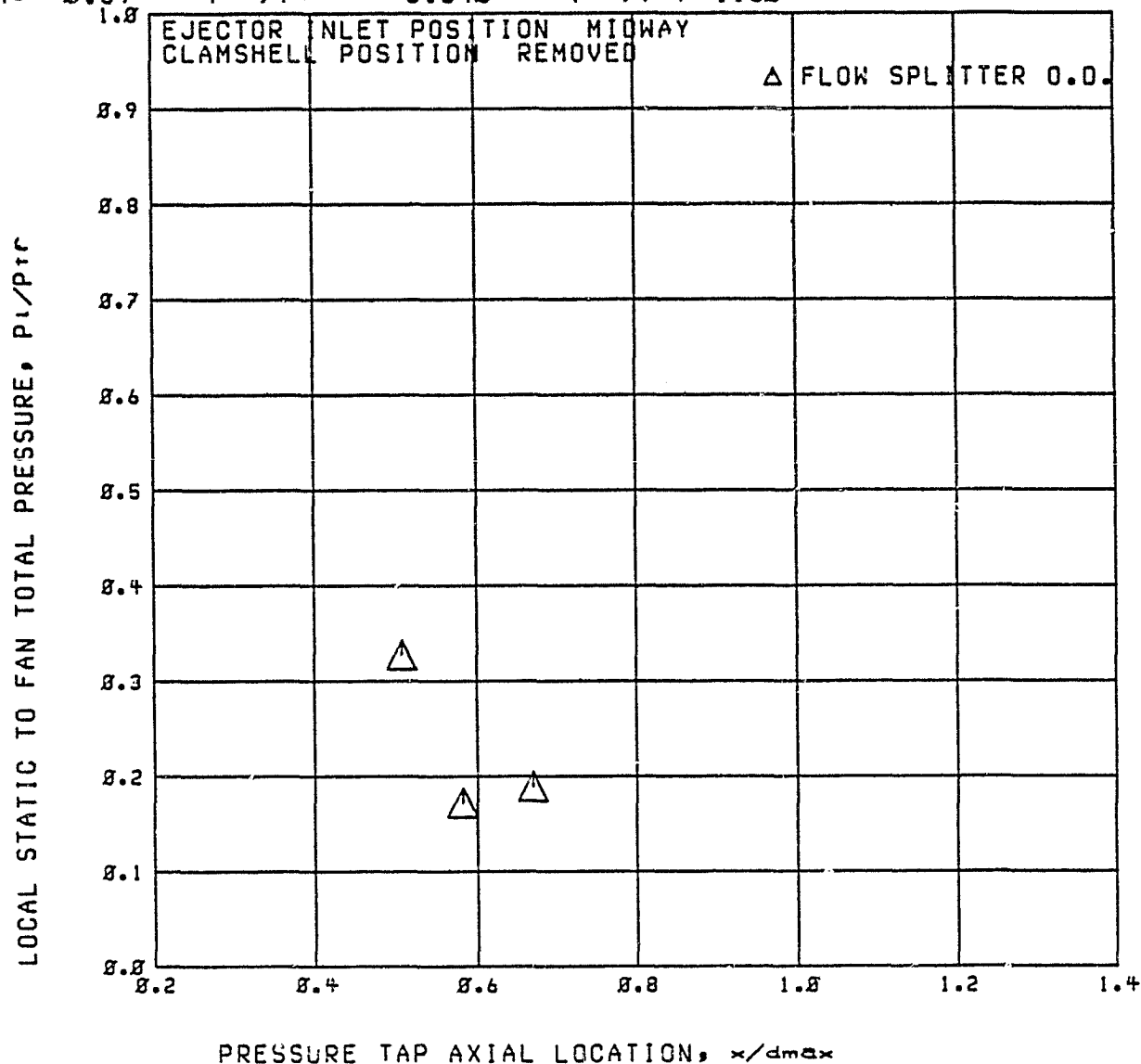
Run 47

C2

RDG=2281

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$   $P_{tr}/P_o = 5.340$   $P_{tr}/P_{tp} = 1.80$



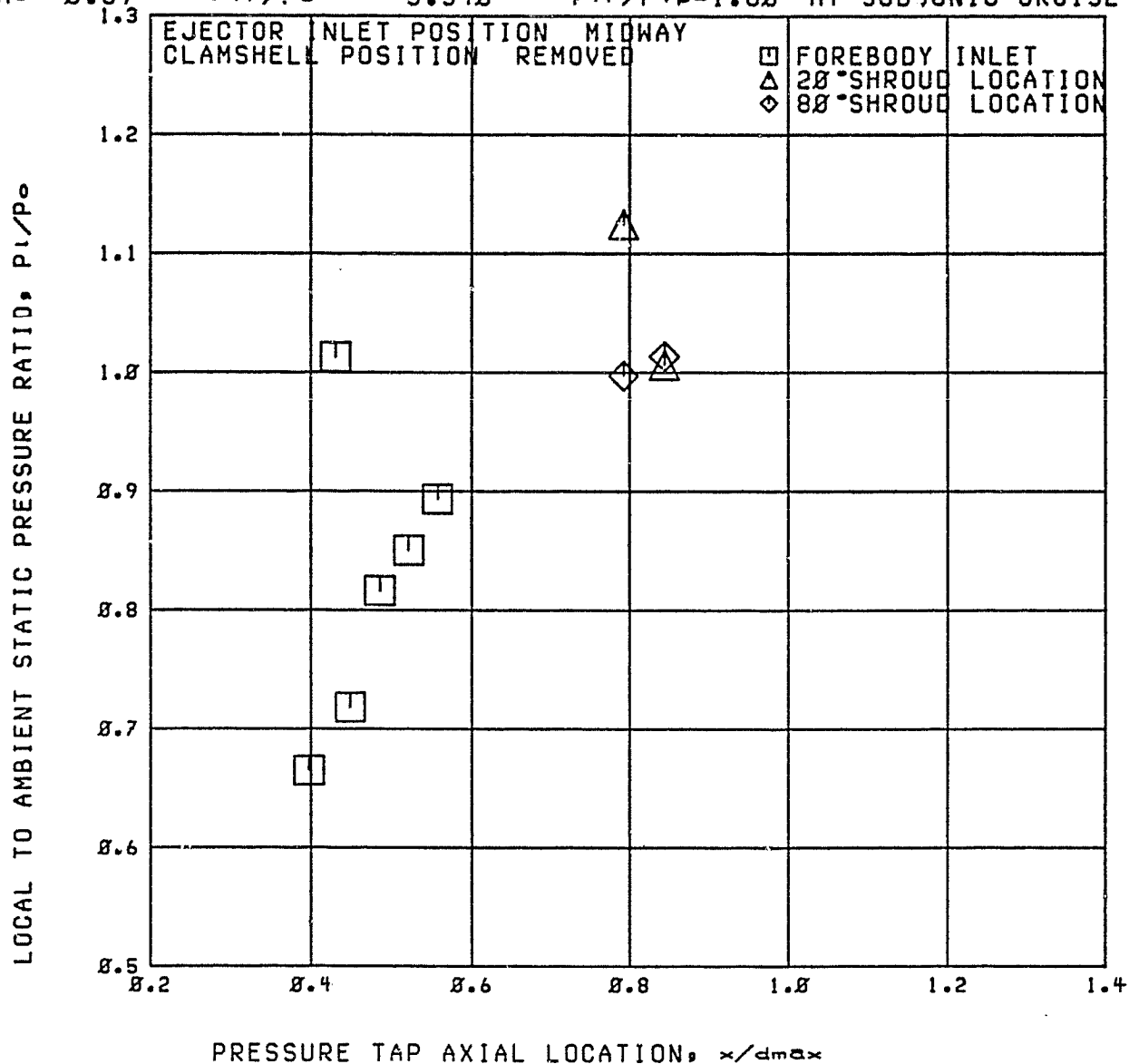
RUN 47

C2

RDG=2281

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$      $P_{tr}/P_o = 5.340$      $P_{tr}/P_{tp} = 1.80$  AT SUBSONIC CRUISE



Run 47

RDG=2282

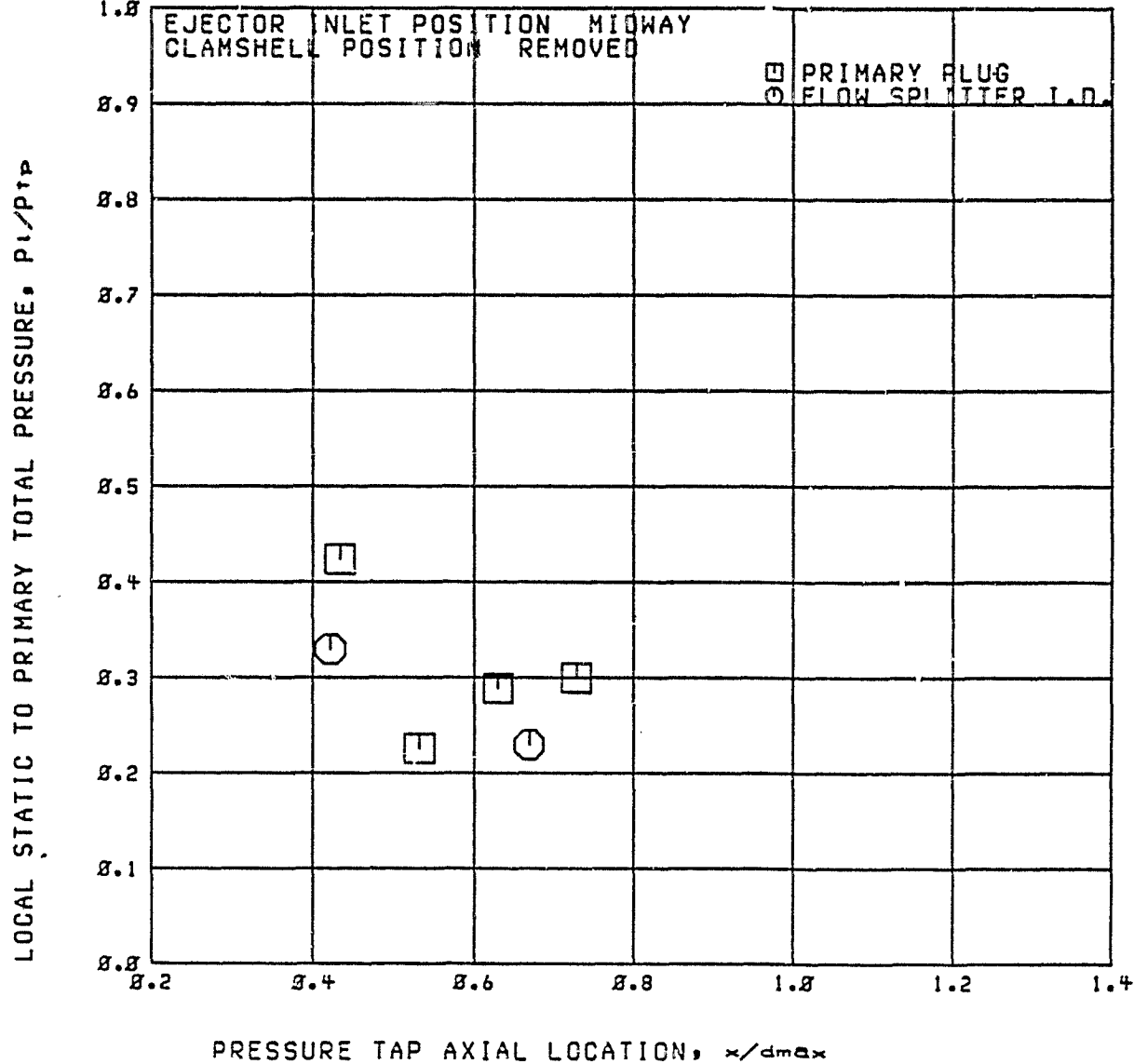
C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 = 6.899$

$P_{tr}/P_{tp} = 1.81$



Run 47

RDG=2282

C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

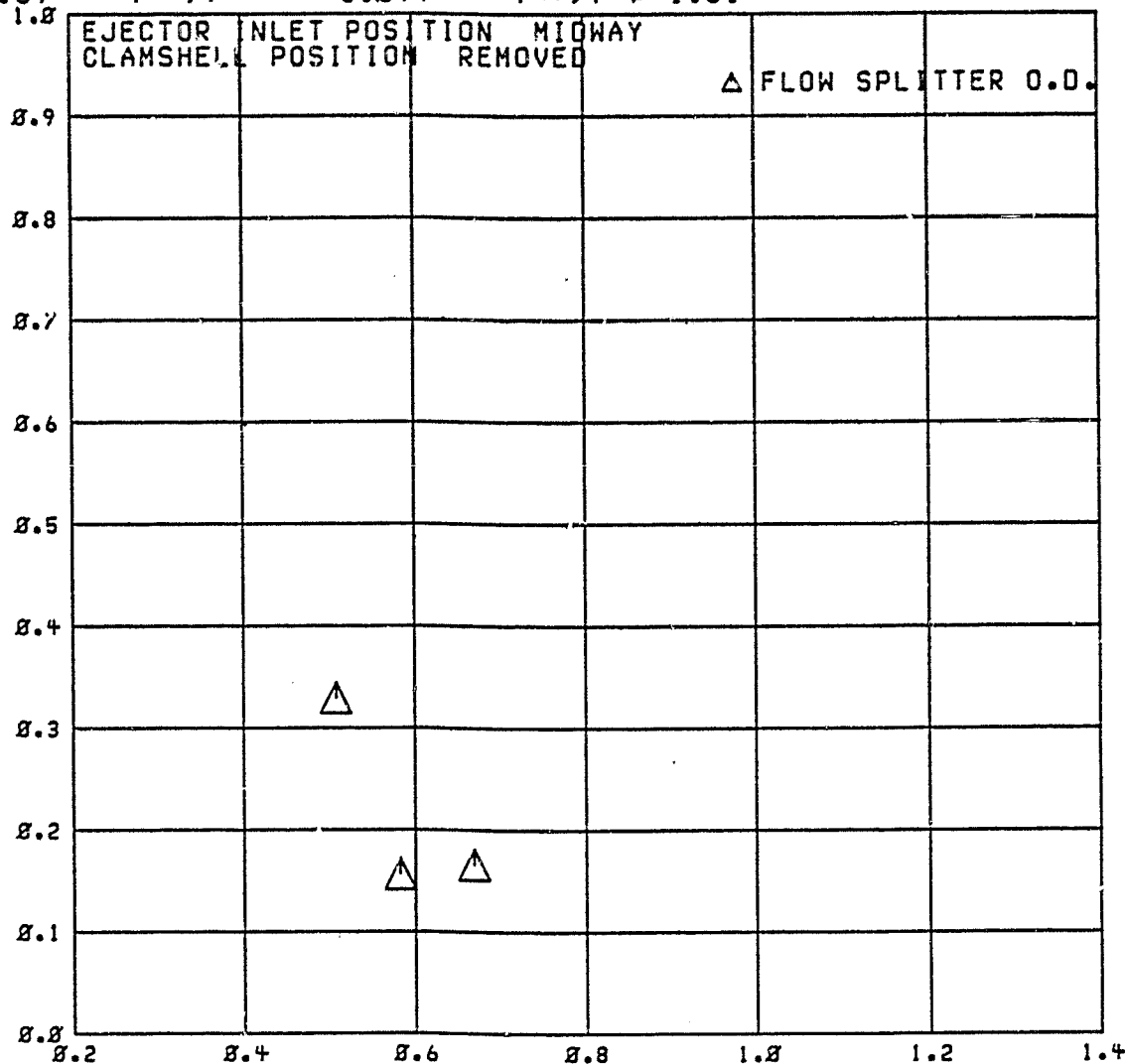
$M_0 = 0.89$

$P_{tr}/P_{02} =$

6.899

$P_{tr}/P_{tp} = 1.81$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_1/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

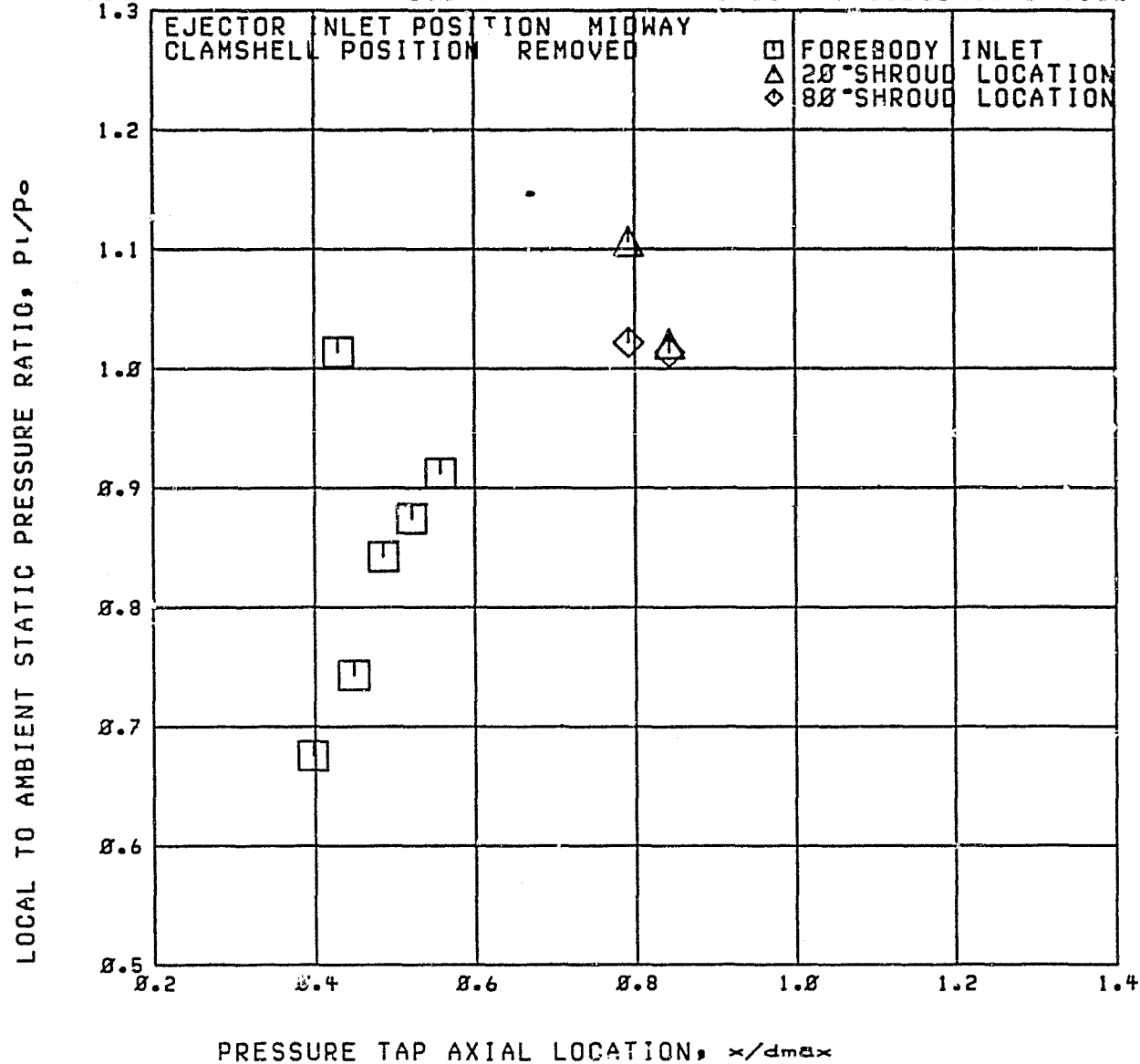
RUN 47

RDG=2282

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 6.099$   $P_{tr}/P_{tr} = 1.81$  AT SUBSONIC CRUISE





Run 47

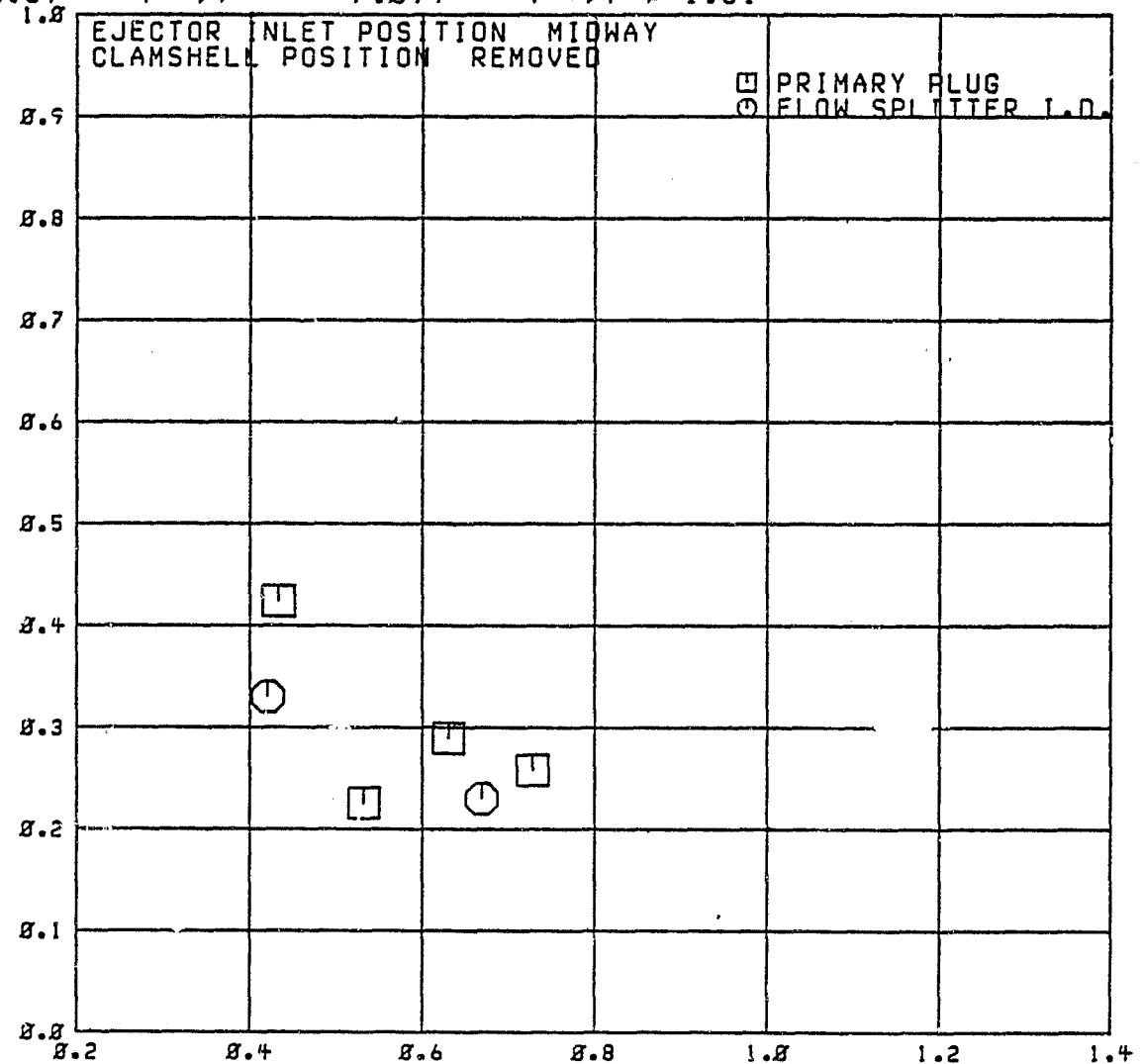
RDG=2283

C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$      $P_{tr}/P_0 = 7.094$      $P_{tr}/P_{tp} = 1.81$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

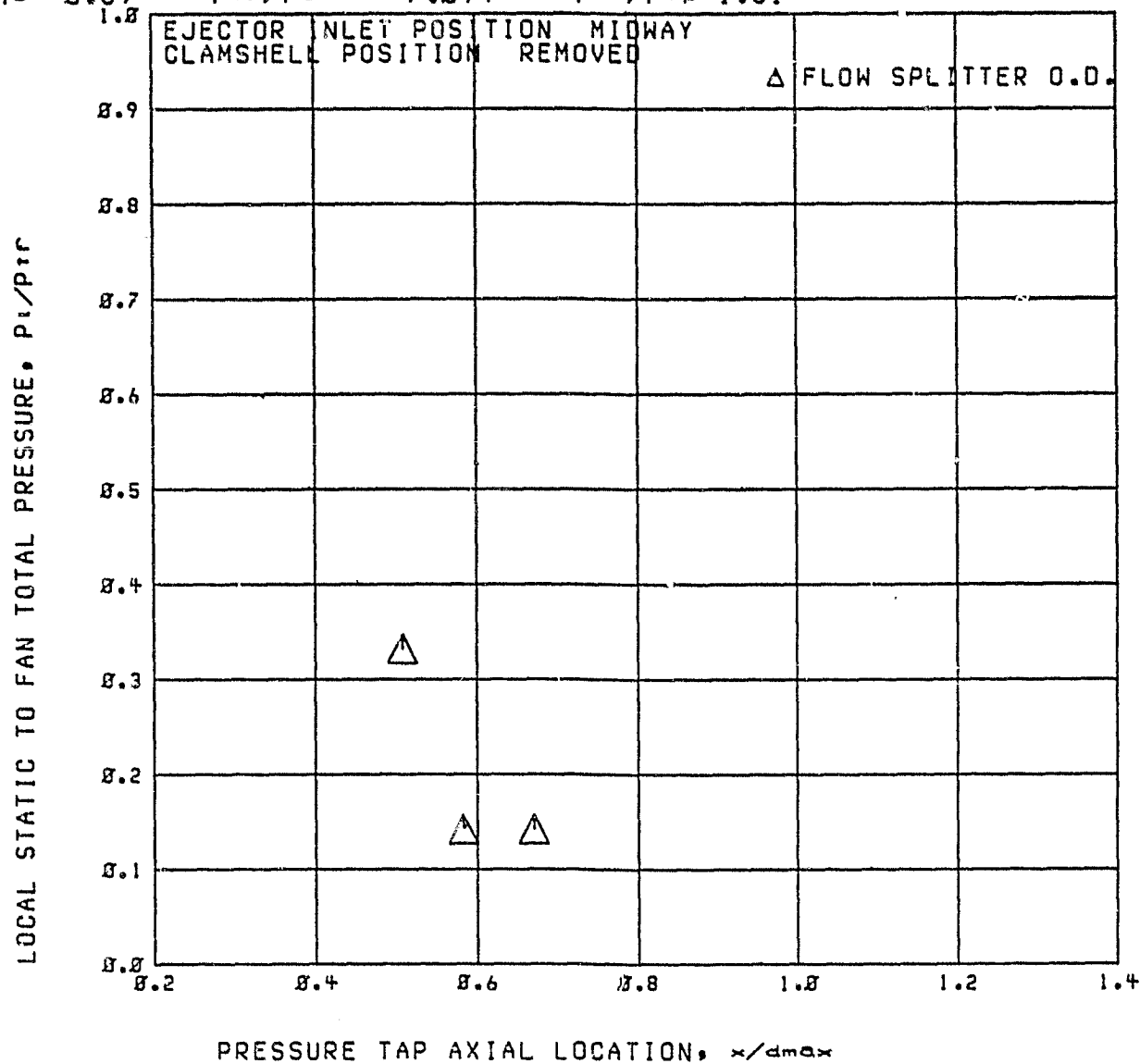
RUN 47

C2

ROG=2283

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$   $P_{tr}/P_{02} = 7.894$   $P_{tr}/P_{trp} = 1.81$



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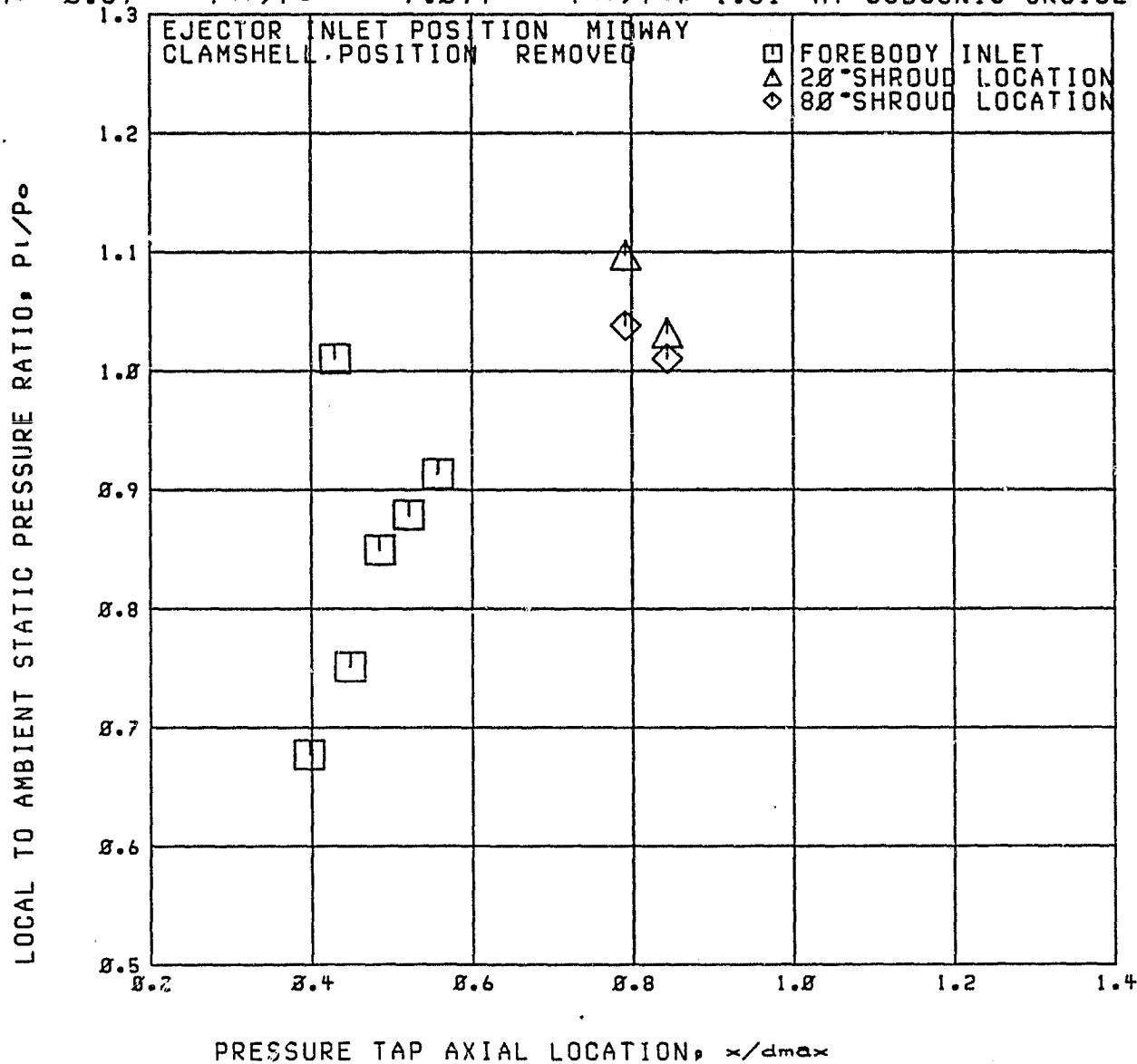
Run 47

C2

RDG=2283

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 7.094$   $P_{tr}/P_{tp} = 1.81$  AT SUBSONIC CRUISE



Run 47

RDG=2284

C2

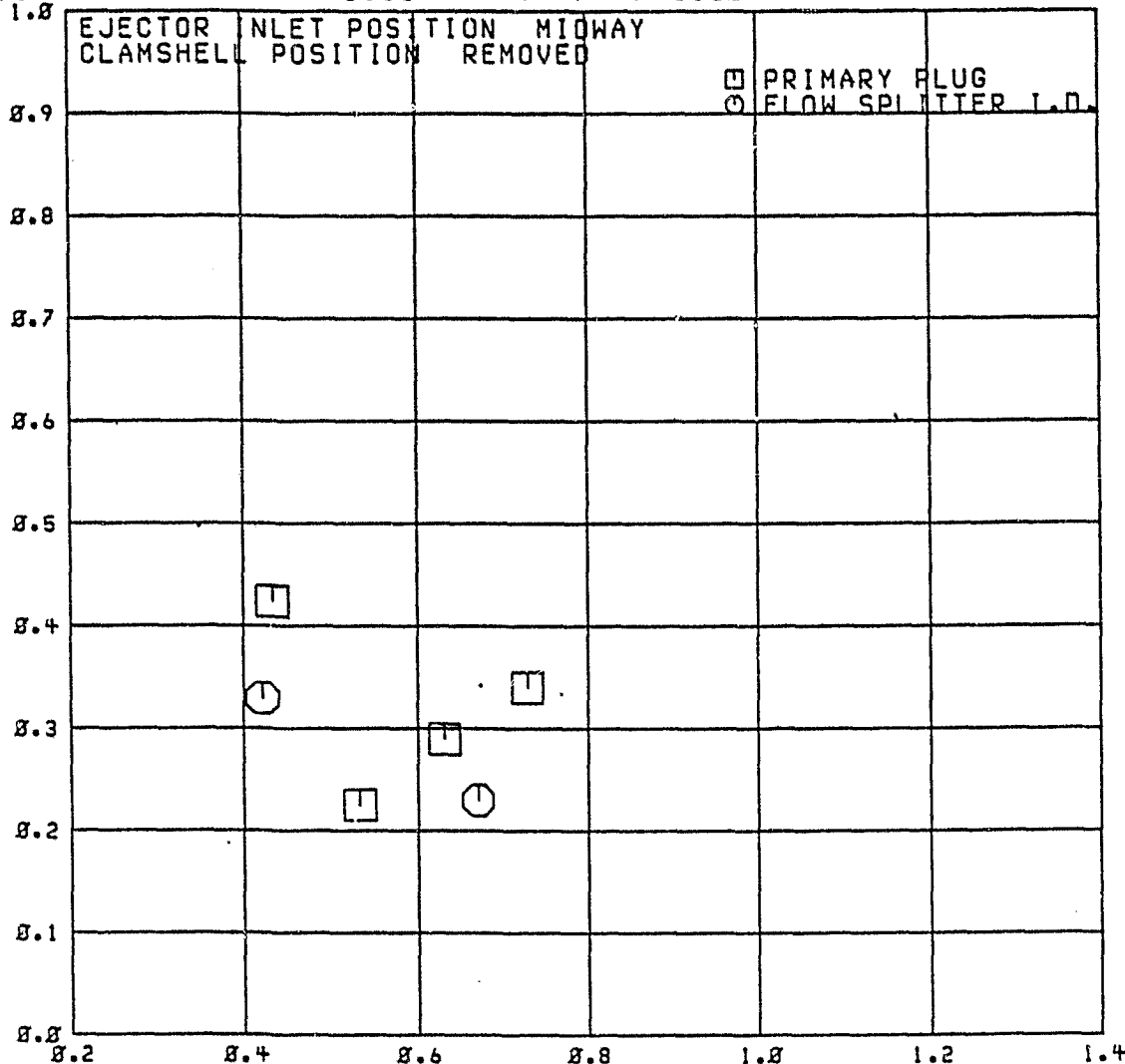
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 = 5.354$

$P_{tr}/P_{tp} = 1.80$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_t/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

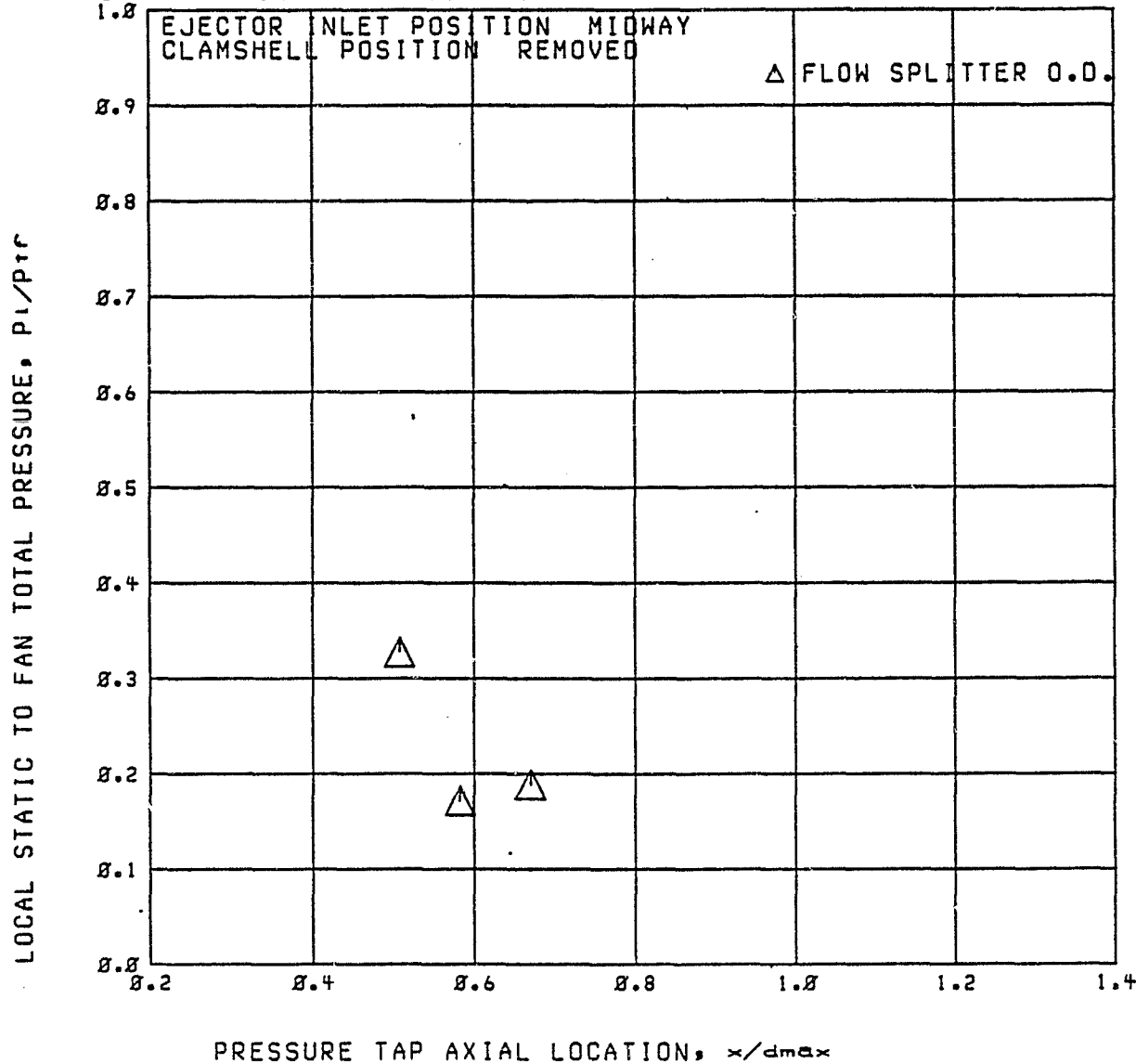
Run 47

C2

RDG=2284

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$   $P_{tr}/P_0 = 5.354$   $P_{tr}/P_{tp} = 1.88$



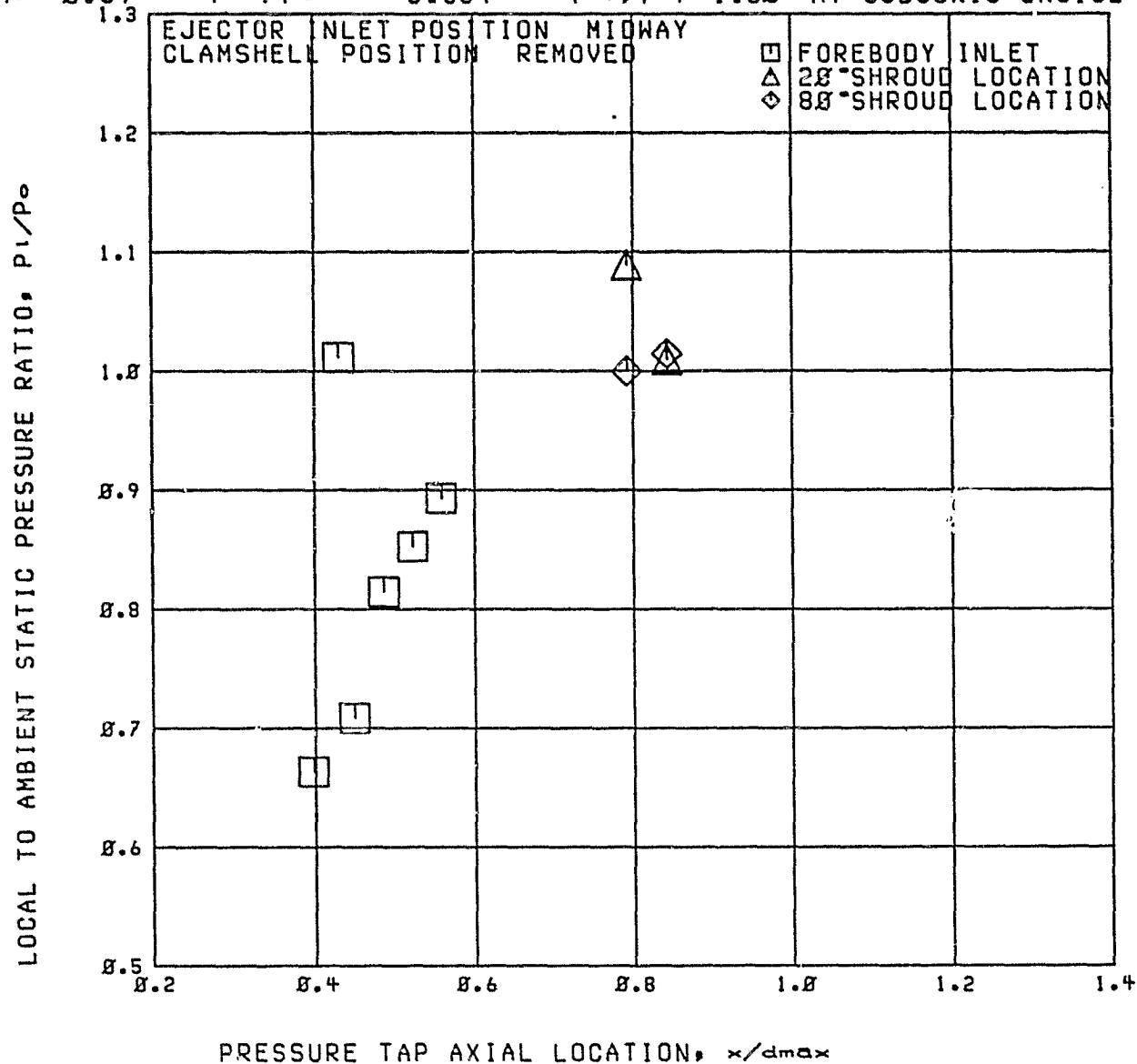
Run 47

C2

RDG=2284

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 5.354$   $P_{tr}/P_{tp} = 1.80$  AT SUBSONIC CRUISE



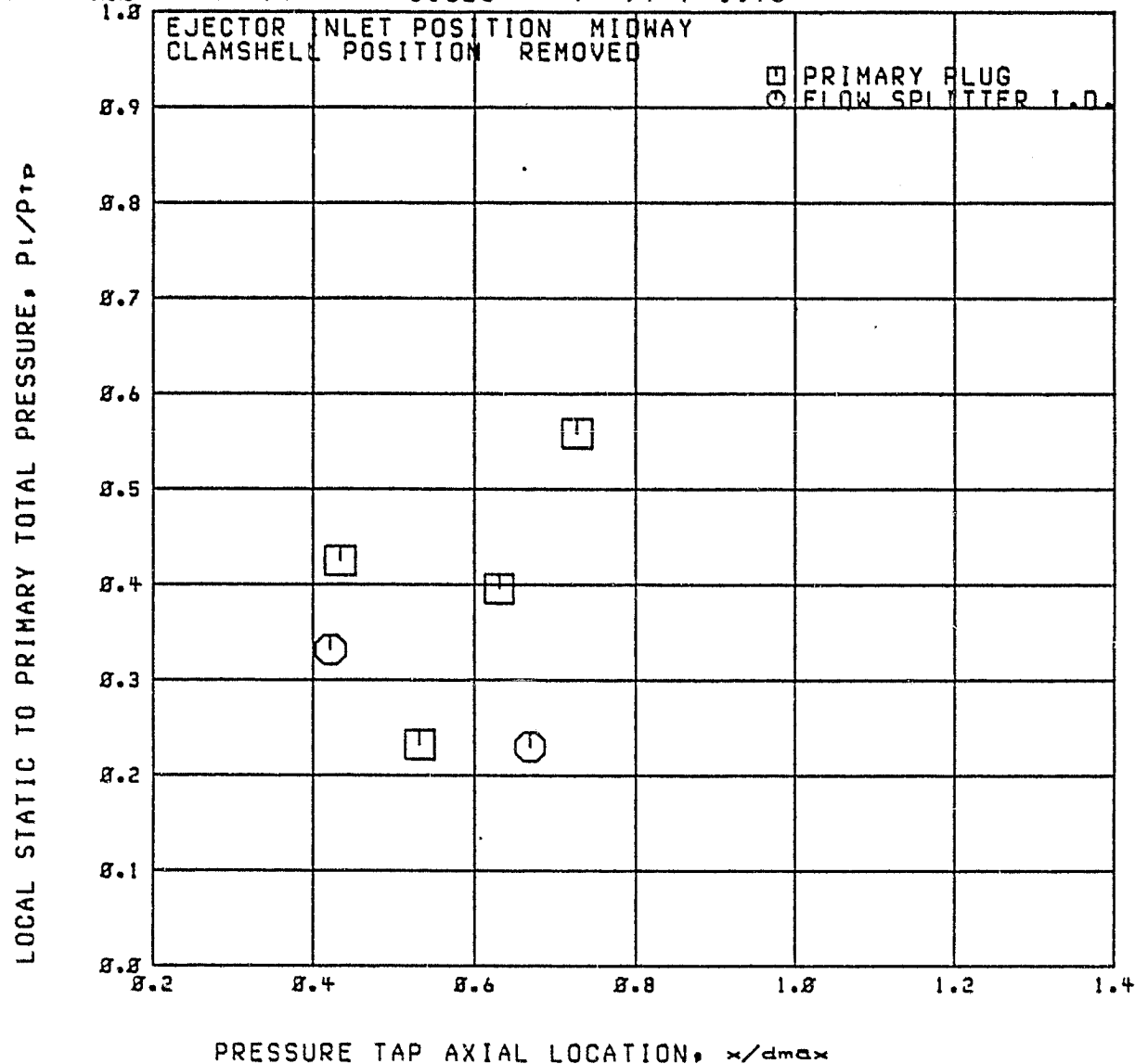
RUN 47

RDG=2286

C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = -.88$   $P_{tr}/P_0 = 3.526$   $P_{tr}/P_{tp} = 1.98$



Run 47

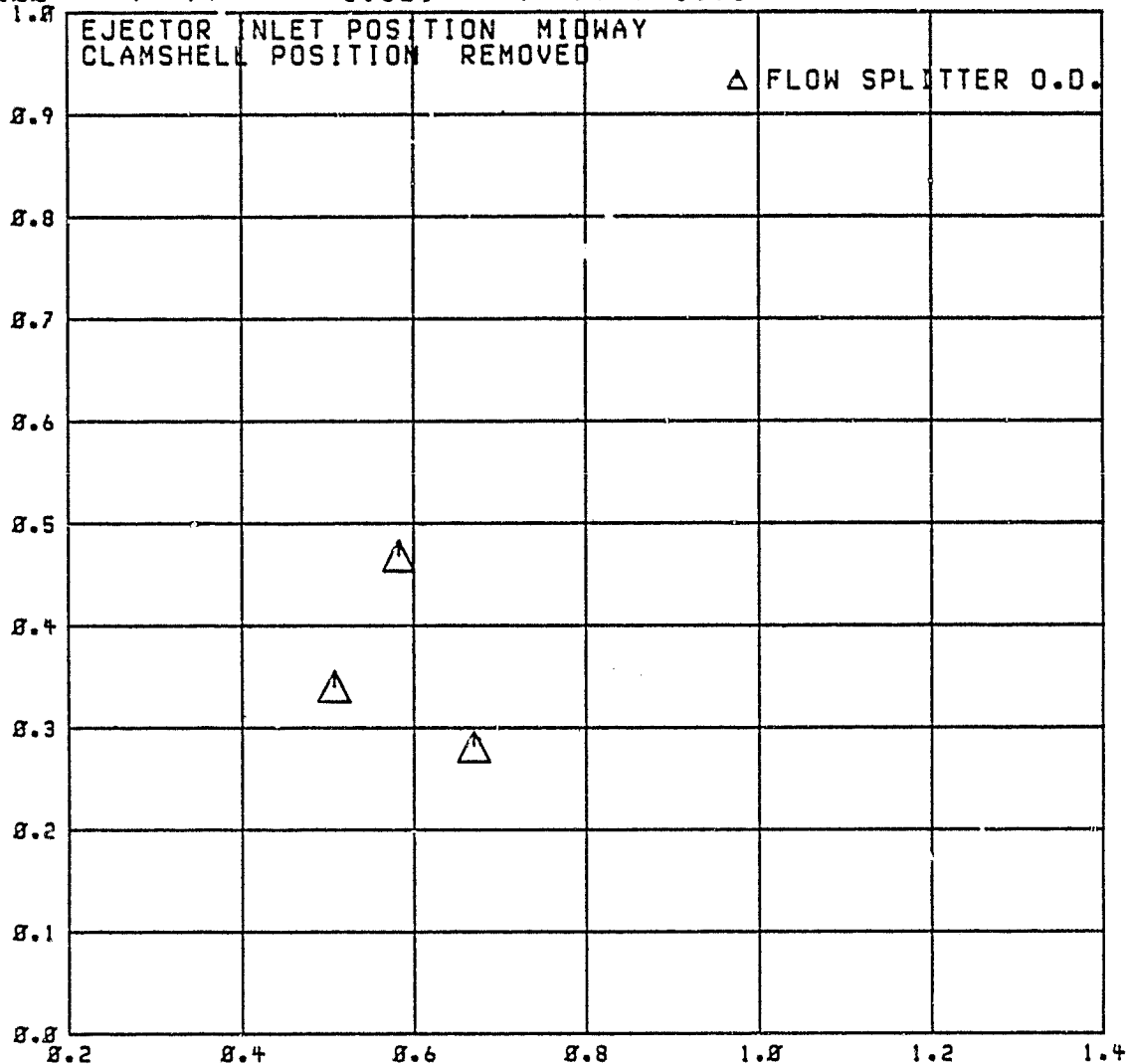
RDG=2286

C2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = -.88$   $P_{tr}/P_o = 3.526$   $P_{tr}/P_{tp} = 1.98$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$



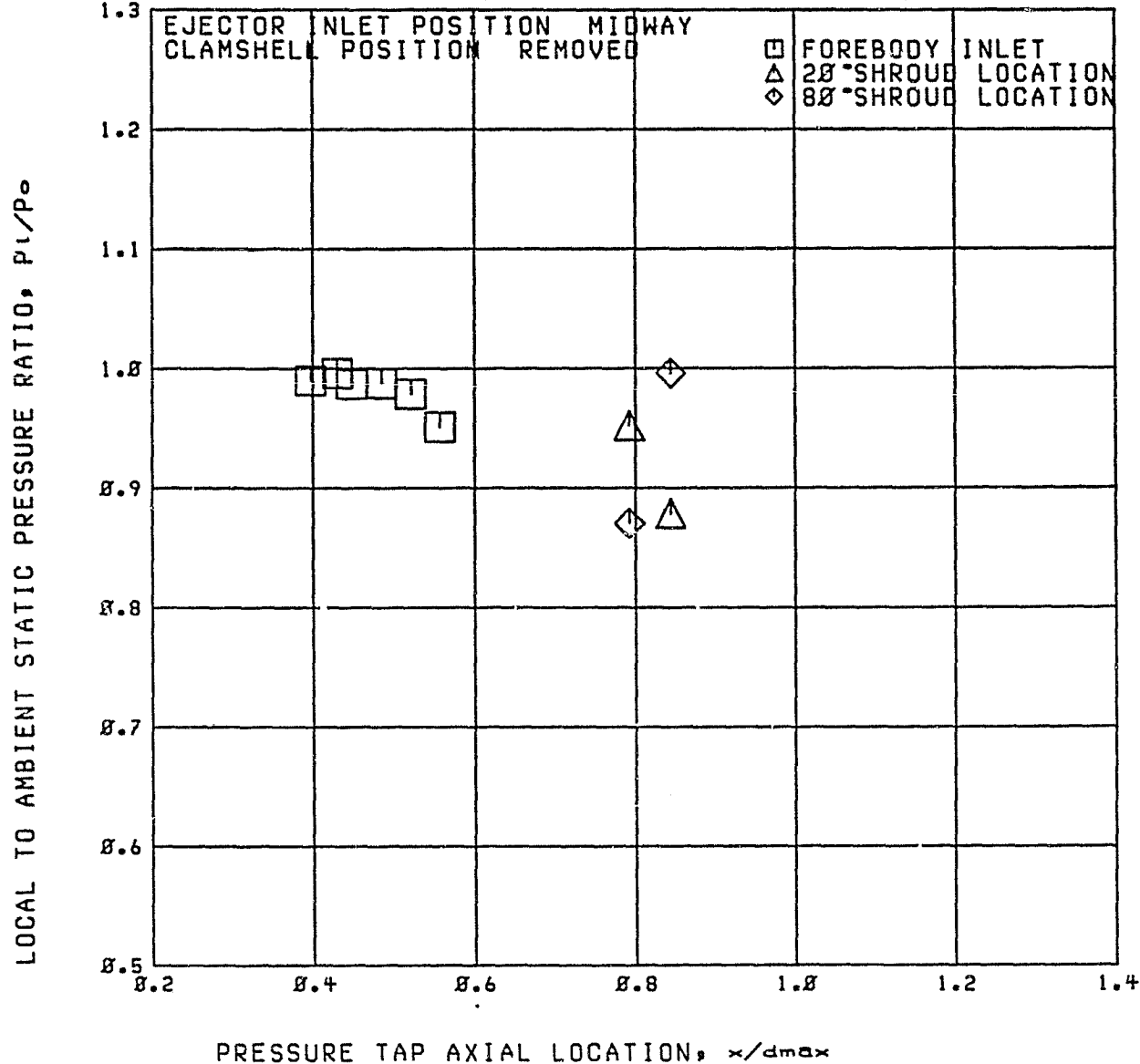
RUN 47

C2

RDG=2286

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = -.00$   $P_{tr}/P_o = 3.526$   $P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE



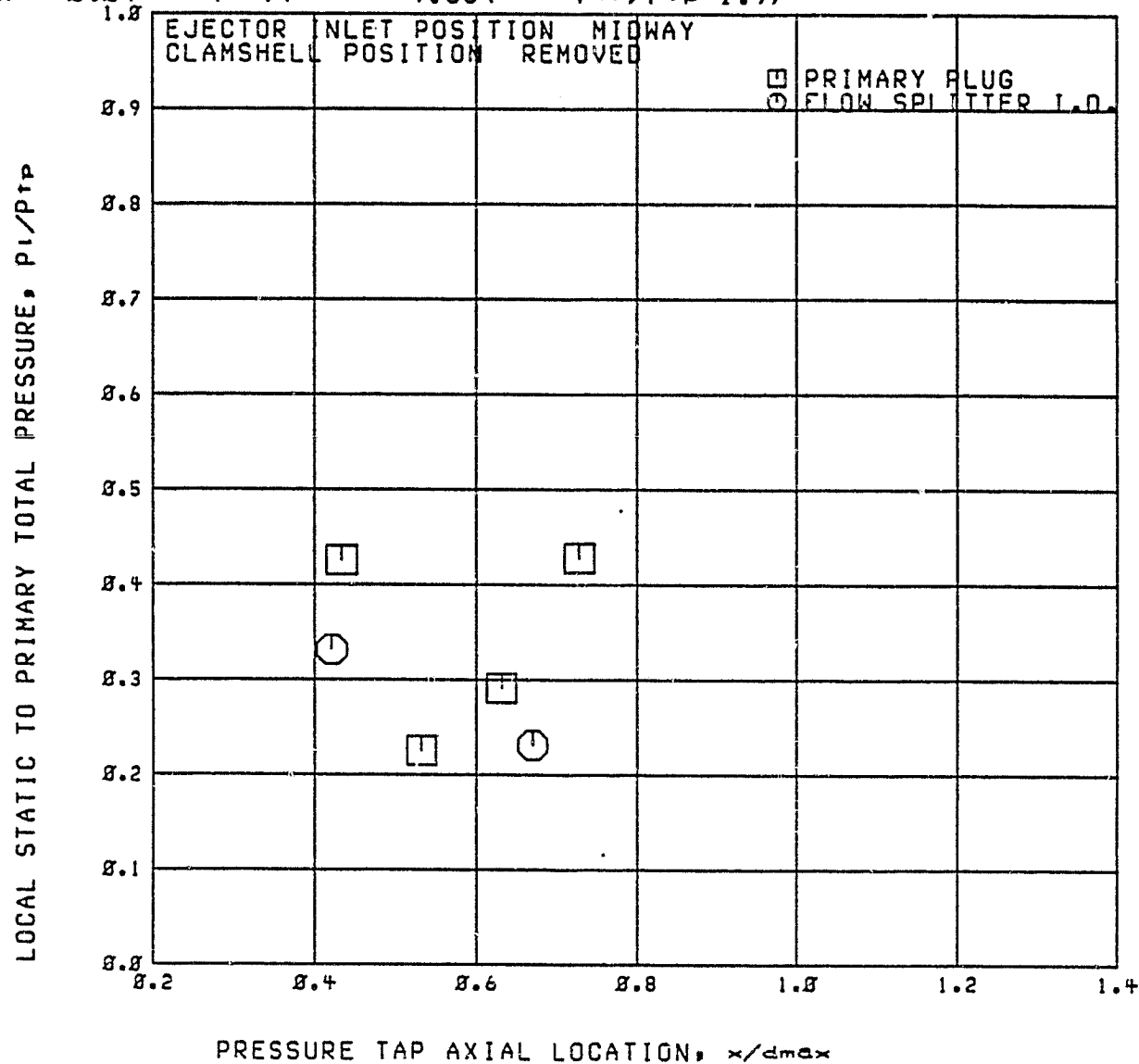
Run 47

C2

RDG=2287

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.84$   $P_{tr}/P_{02} = 4.584$   $P_{tr}/P_{trp} = 1.97$



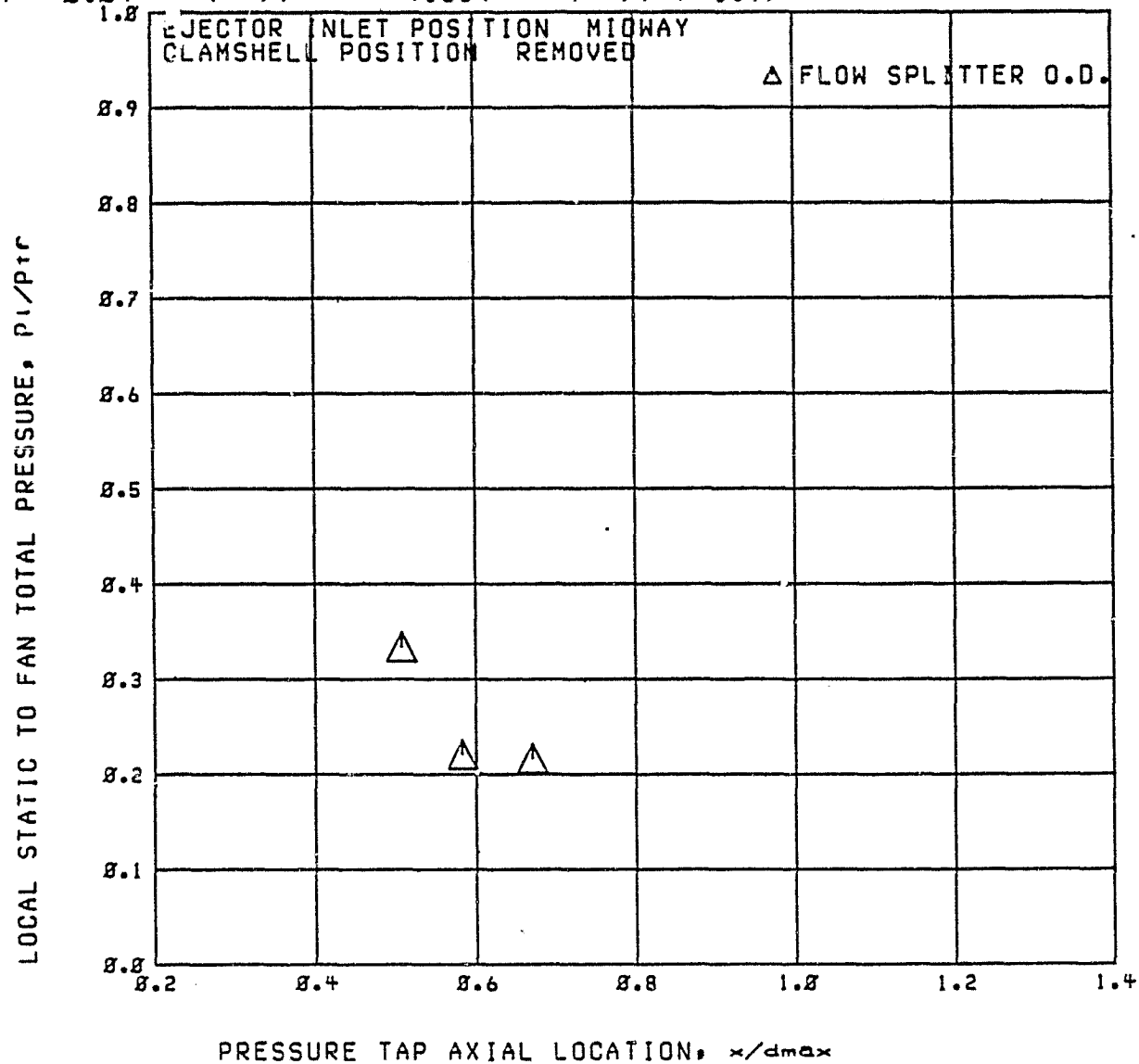
Run 47

C2

RDG=2287

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_\infty = 0.84$   $P_{tr}/P_\infty = 4.584$   $P_{tr}/P_{tp} = 1.97$



RUN 47

RDG=2287

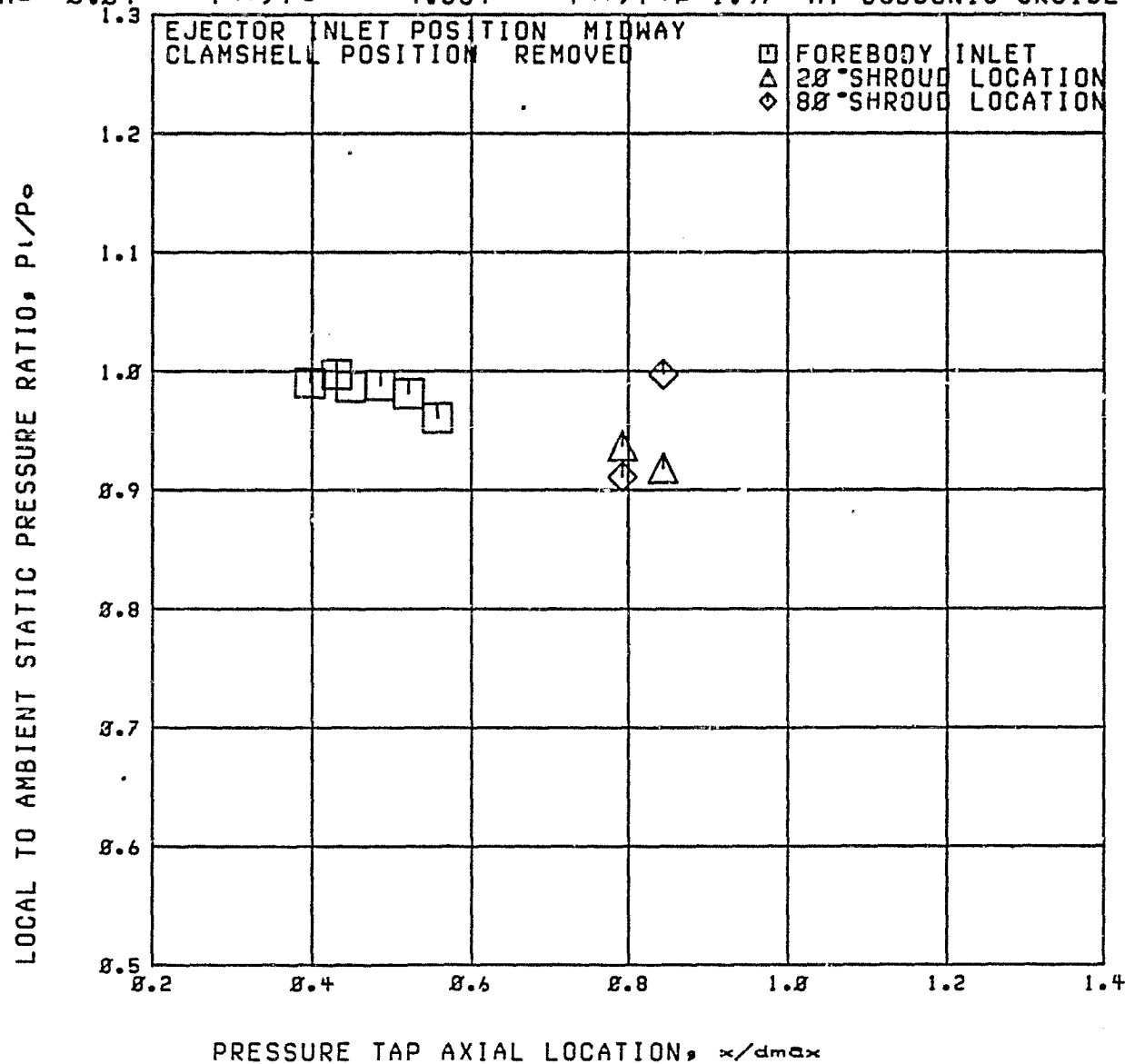
C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.84$

$P_{tr}/P_o = 4.584$

$P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



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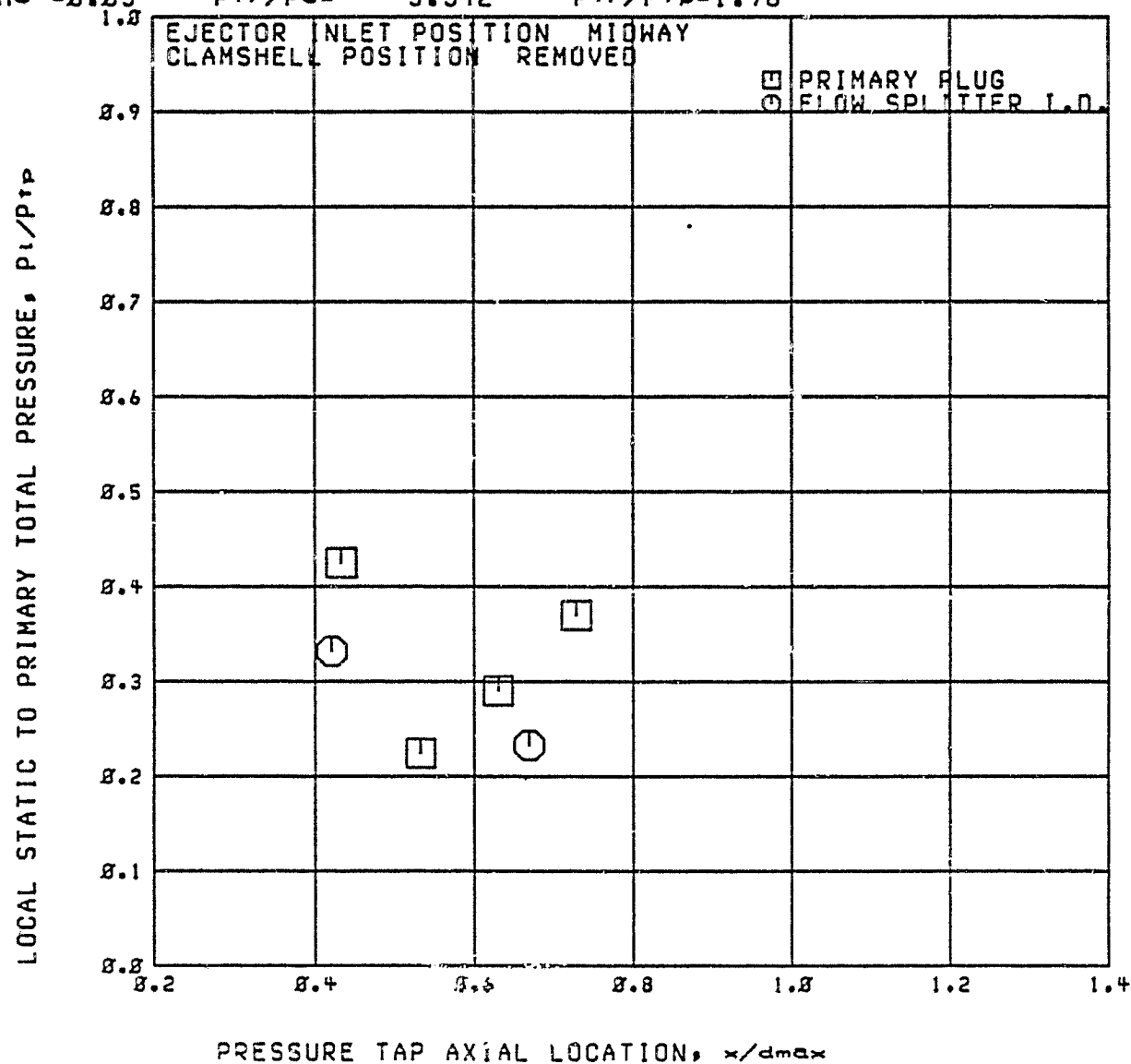
RUN 47

C2

RDG=2288

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_\infty = 0.85$   $P_{tr}/P_\infty = 5.342$   $P_{tr}/P_{trp} = 1.98$



RUN 47

C2

RDG=2268

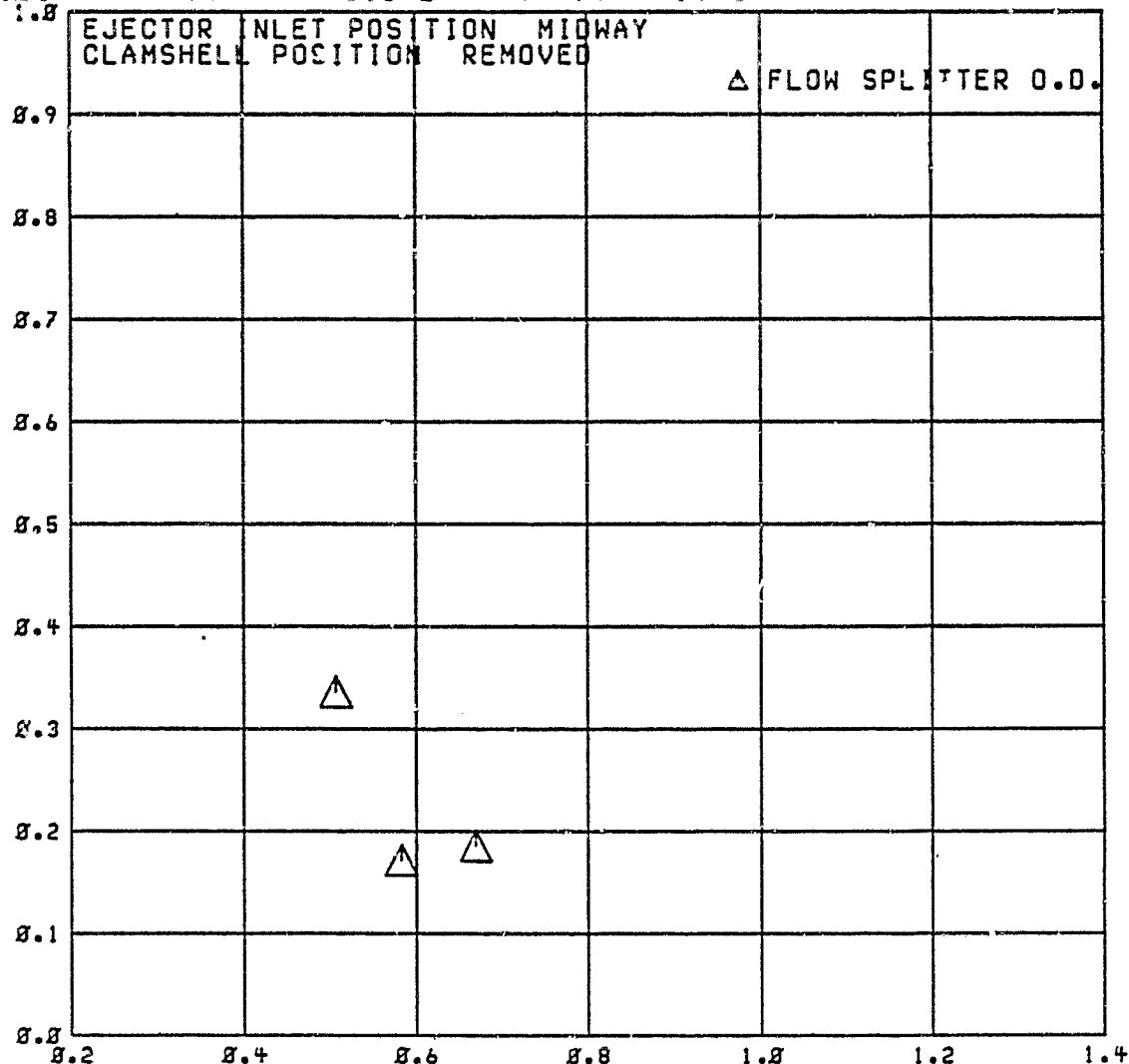
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.05$

$P_{tr}/P_{0e} = 5.342$

$P_{tr}/P_{trp} = 1.98$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 47

RDG=2288

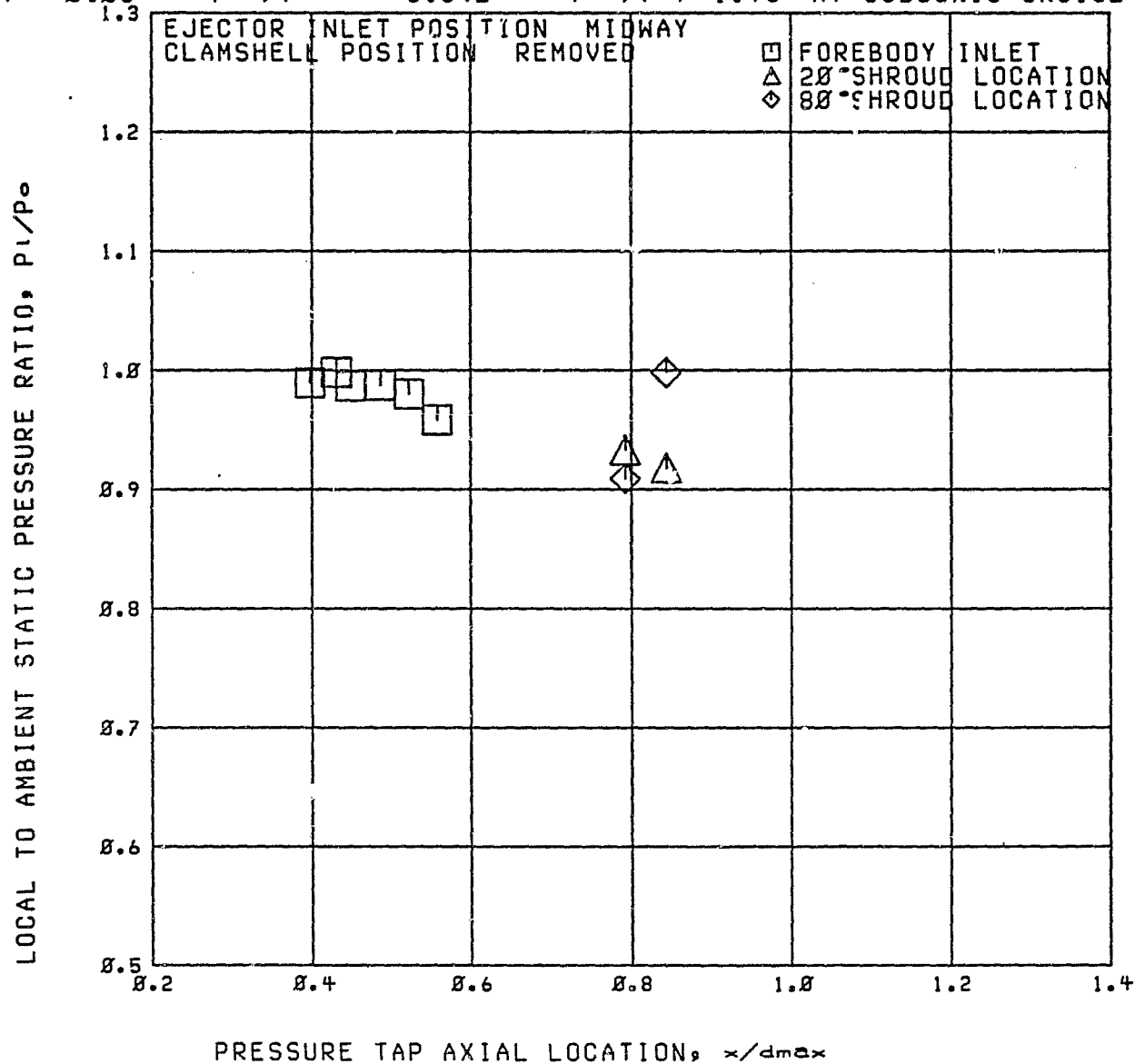
32

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.05$

$P_{tr}/P_o = 5.342$

$P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE



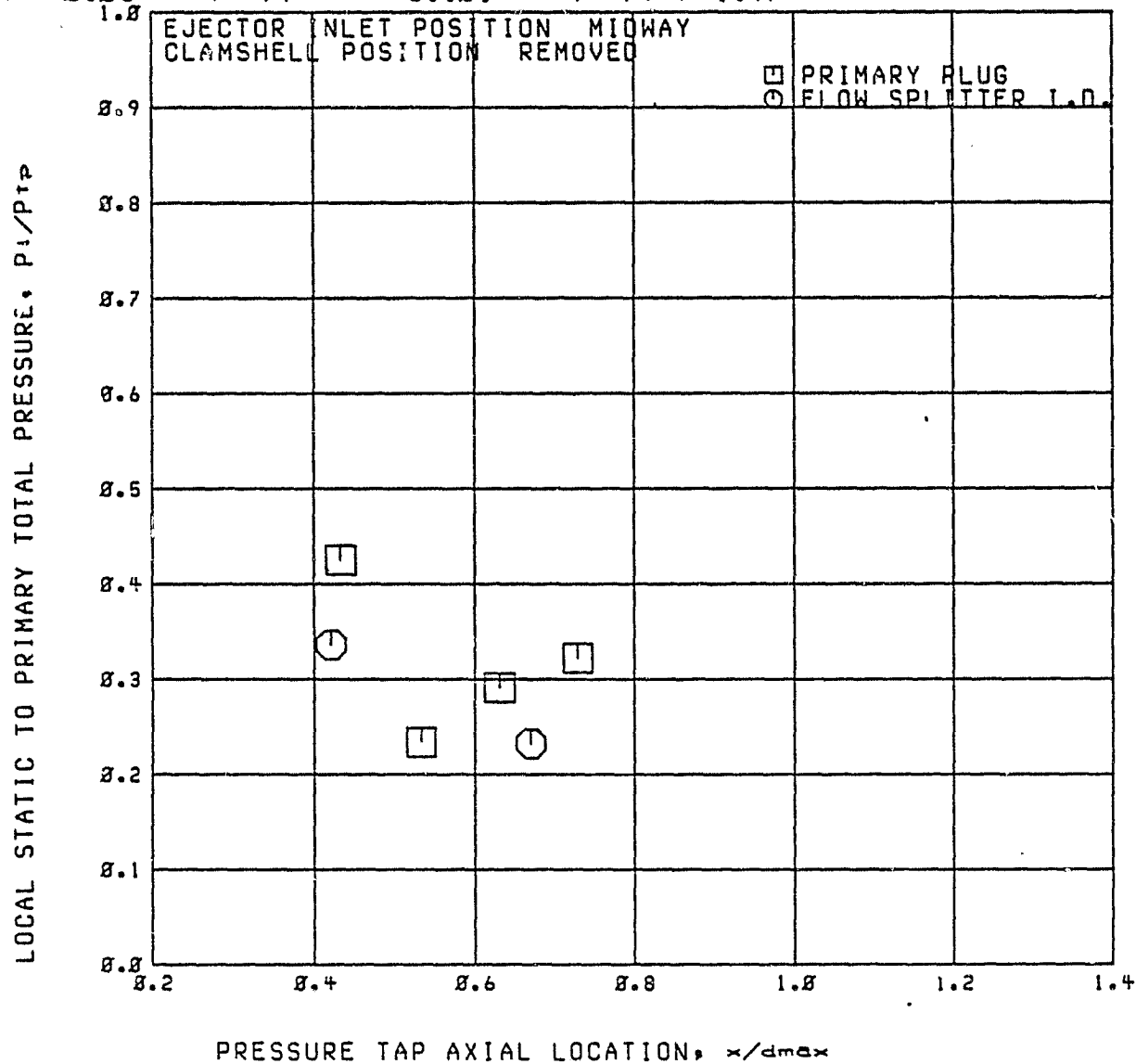
RUN 47

C2

RDG=2289

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.05$   $P_{tr}/P_o = 6.101$   $P_{tr}/P_{tp} = 1.97$





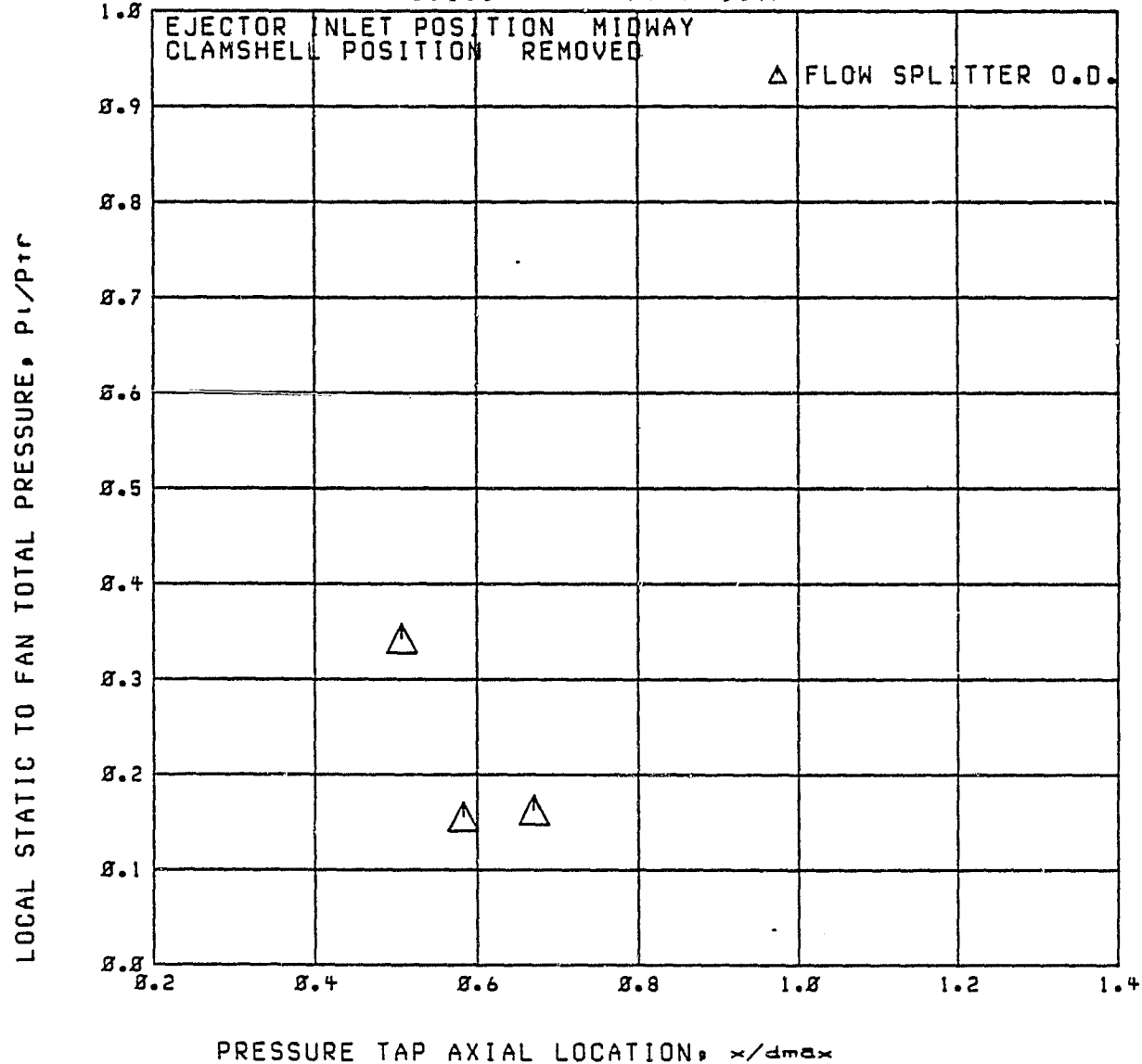
Run 47

C2

RDG=2289

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.85$   $P_{tr}/P_o = 6.101$   $P_{tr}/P_{tp} = 1.97$



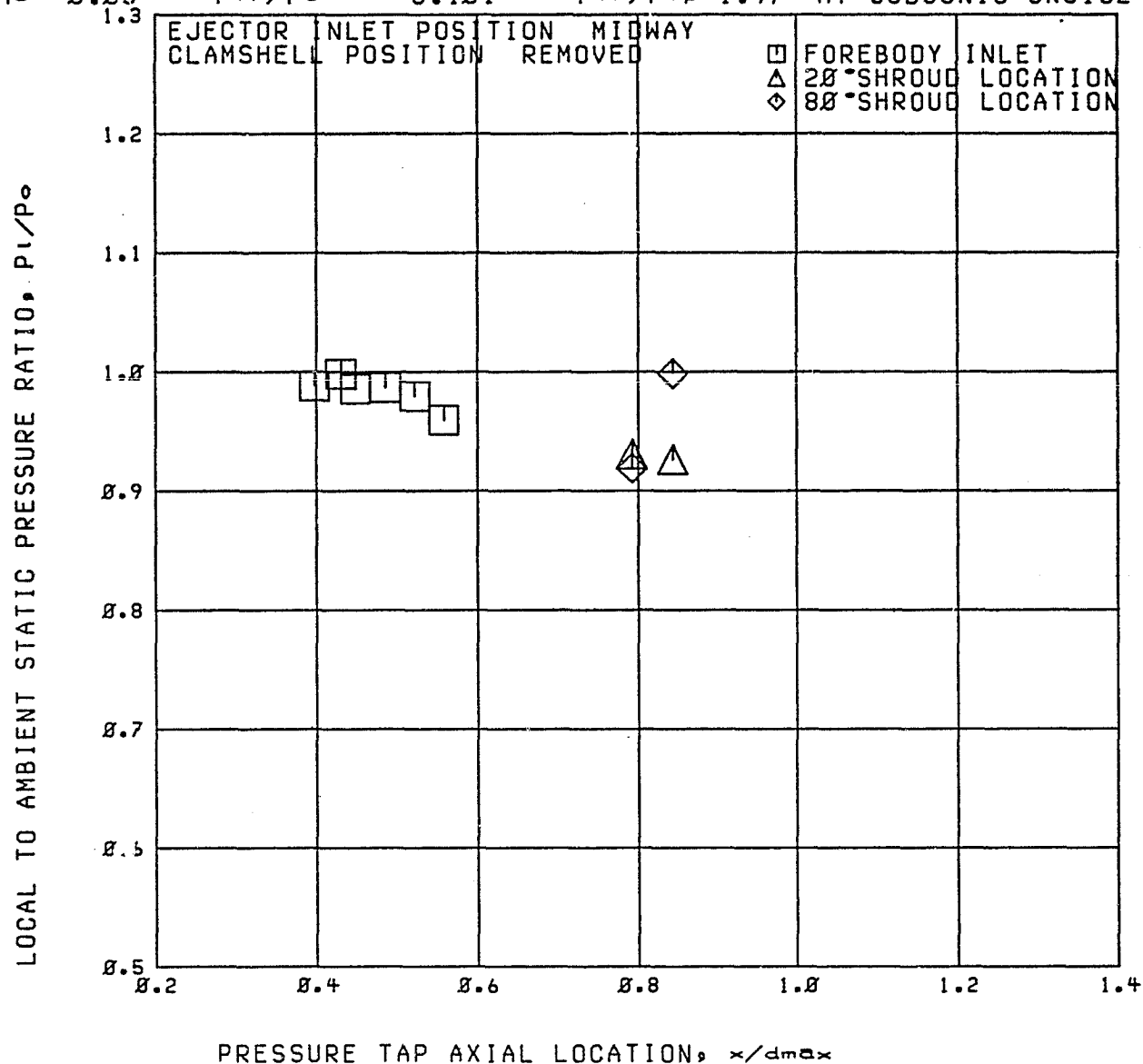
RUN 47

RDG=2289

C2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.05$   $P_{tr}/P_o = 6.101$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



**CONFIGURATION A<sub>2</sub>**

**IRIS FLAP NOZZLE**

**SUBSONIC CRUISE**

RDG. 1829-1863

A2

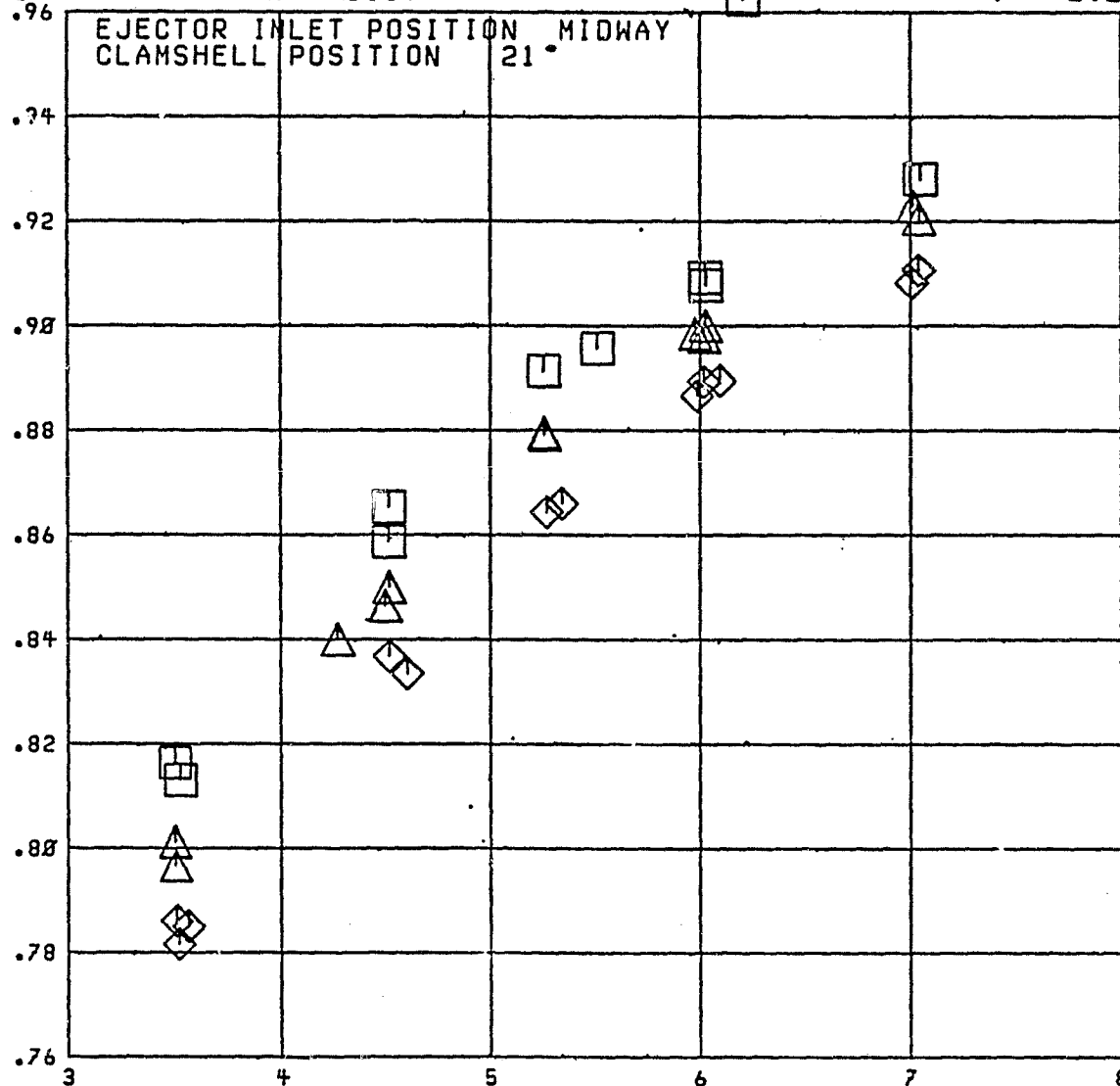
SUBSONIC CRUISE

RUN 33

$M_\infty = 0.89$

$P_{tF}/P_{tP} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$

NOZZLE GROSS THRUST COEFFICIENT,  $CFPI$



FAN NOZZLE PRESSURE RATIO,  $PTF/PO$

ROC. 1829-1863

A2

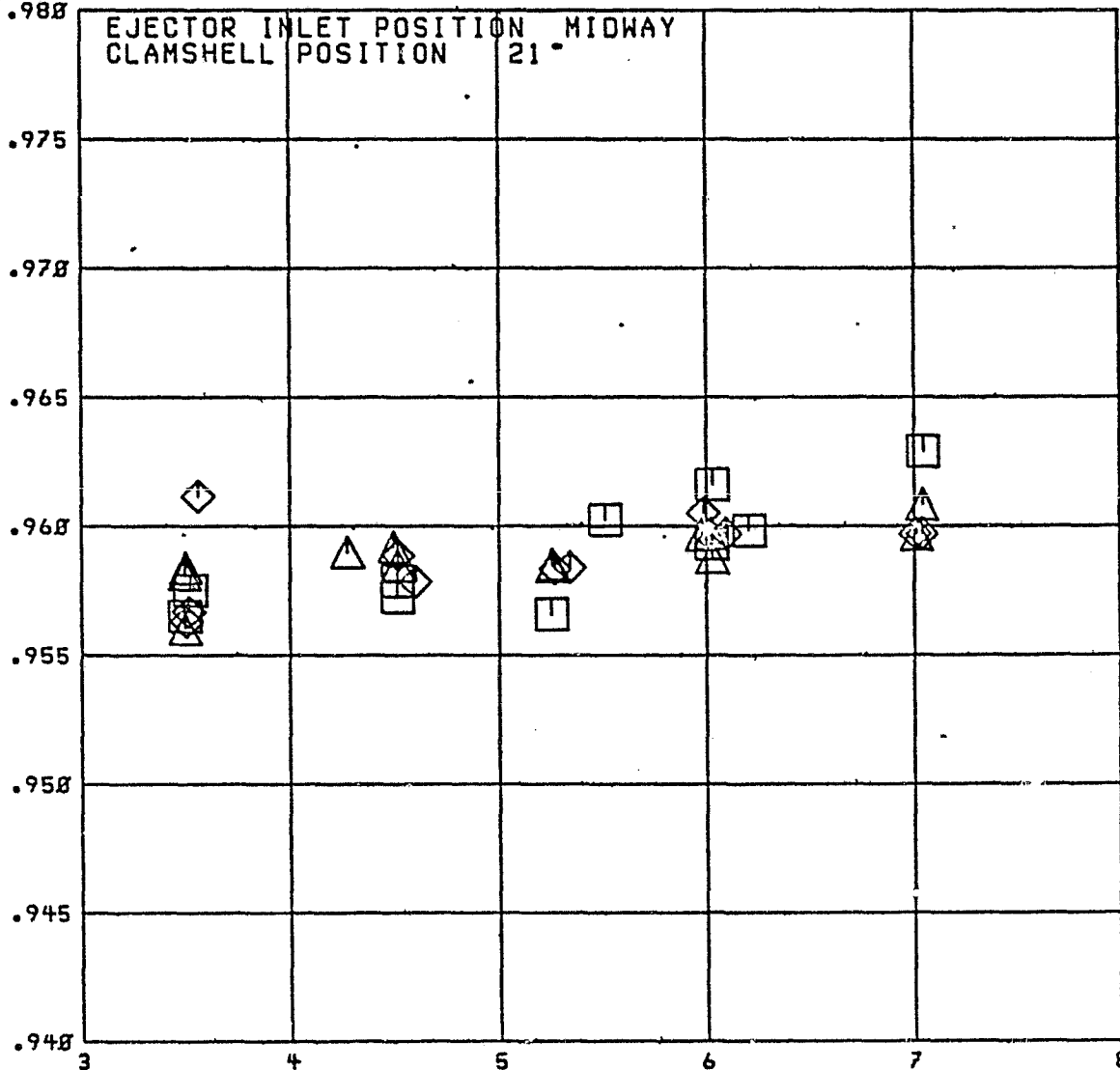
SUBSONIC CRUISE

RUN 33  
.988

$M = 0.89$

$P_{TF}/P_{TP} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$

FAN-NOZZLE FLOW COEFFICIENT, CDF



FAN NOZZLE PRESSURE RATIO,  $P_{TF}/P_O$

RDG. 1829-1863

A2

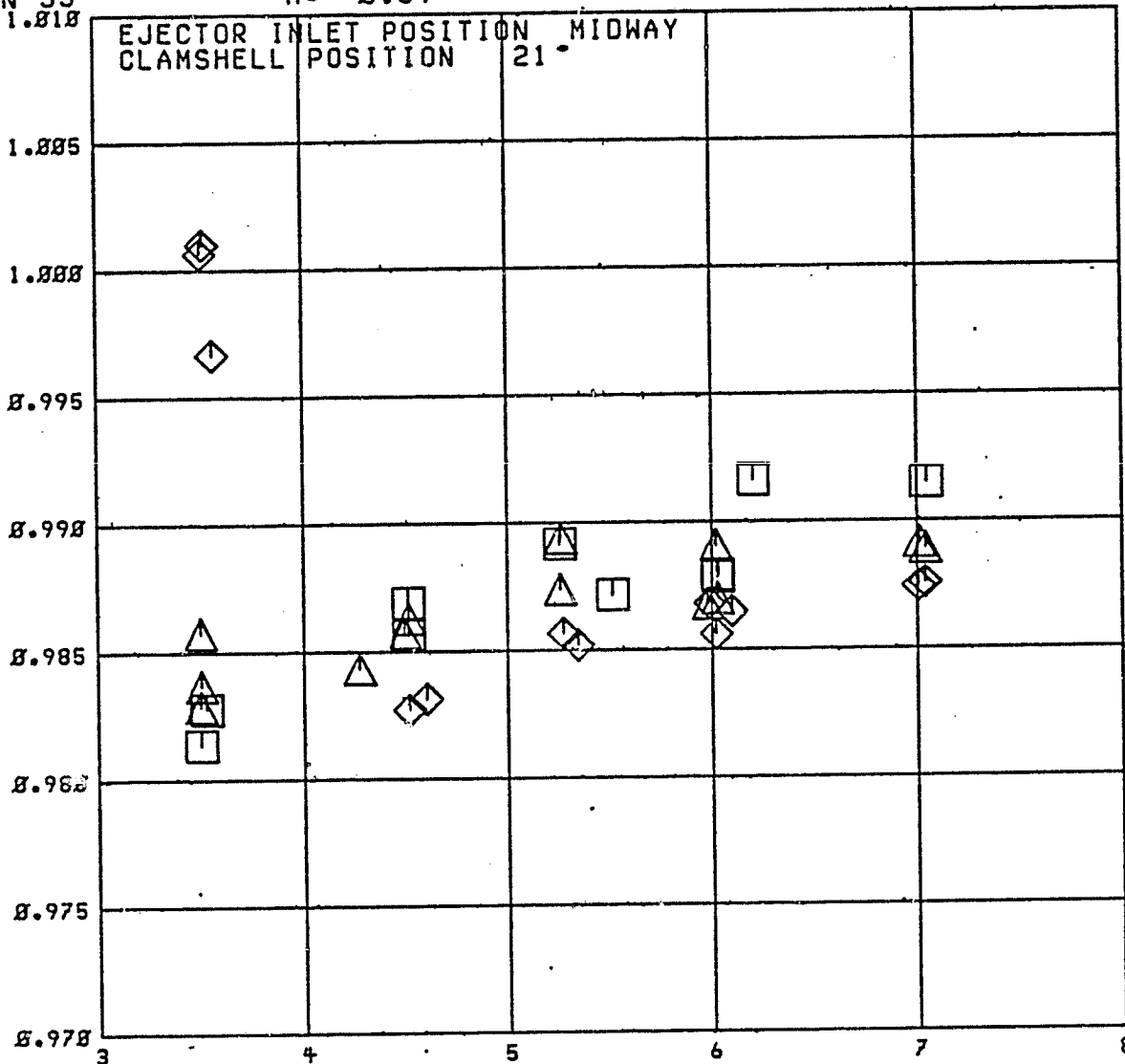
SUBSONIC CRUISE

RUN 33

$M = 0.89$

$P_{tr}/P_{tp} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$

PRIMARY-NOZZLE FLOW COEFFICIENT, CDP



FAN NOZZLE PRESSURE RATIO,  $PTF/PO$

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RUN 33

A2

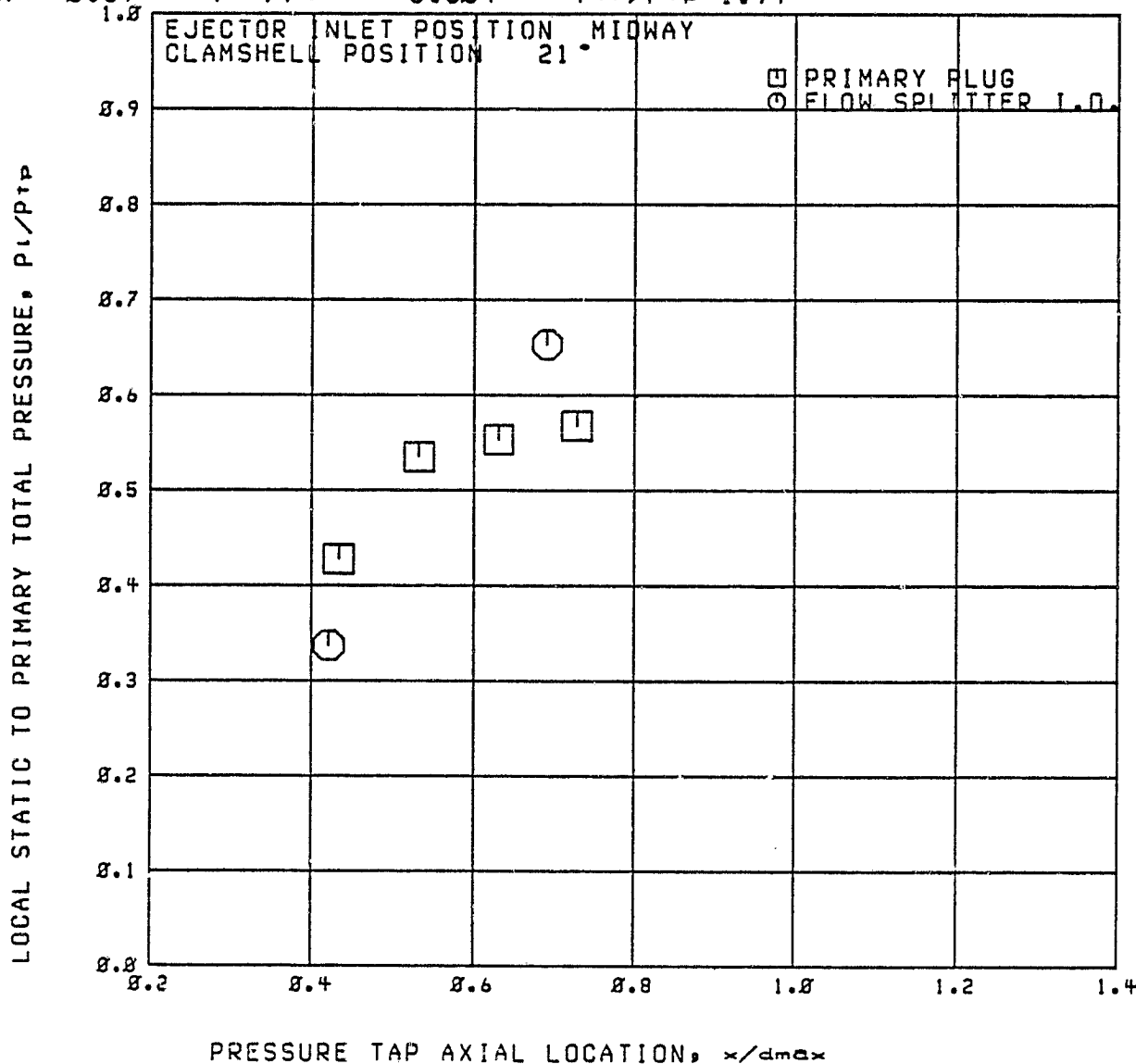
RDG=1841

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$

$P_{tr}/P_o = 3.584$

$P_{tr}/P_{tp} = 1.94$



Run 33

A2

RDG=1841

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_\infty = 0.89$

$P_{tC}/P_\infty = 3.504$

$P_{tC}/P_{tP} = 1.94$

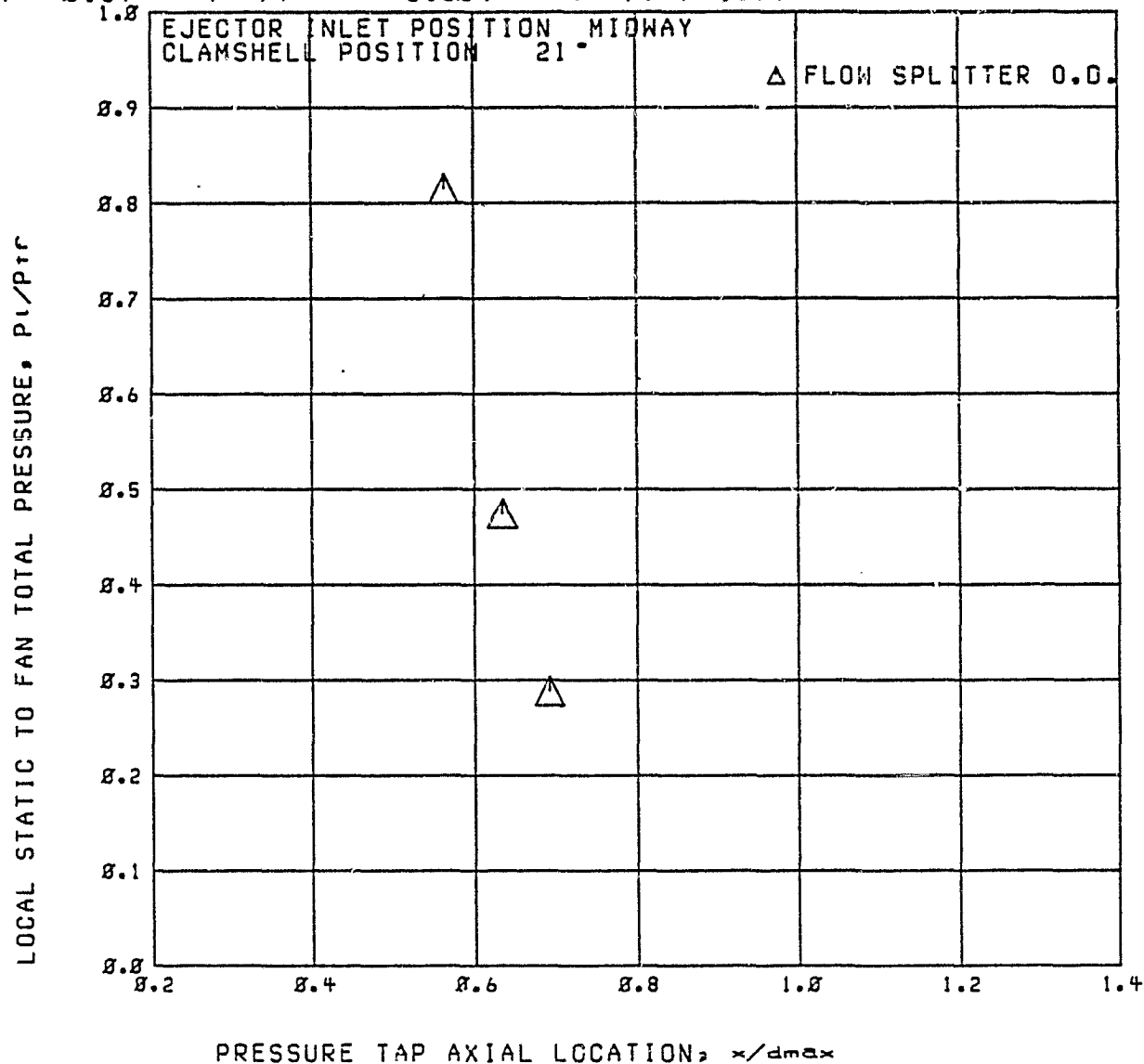




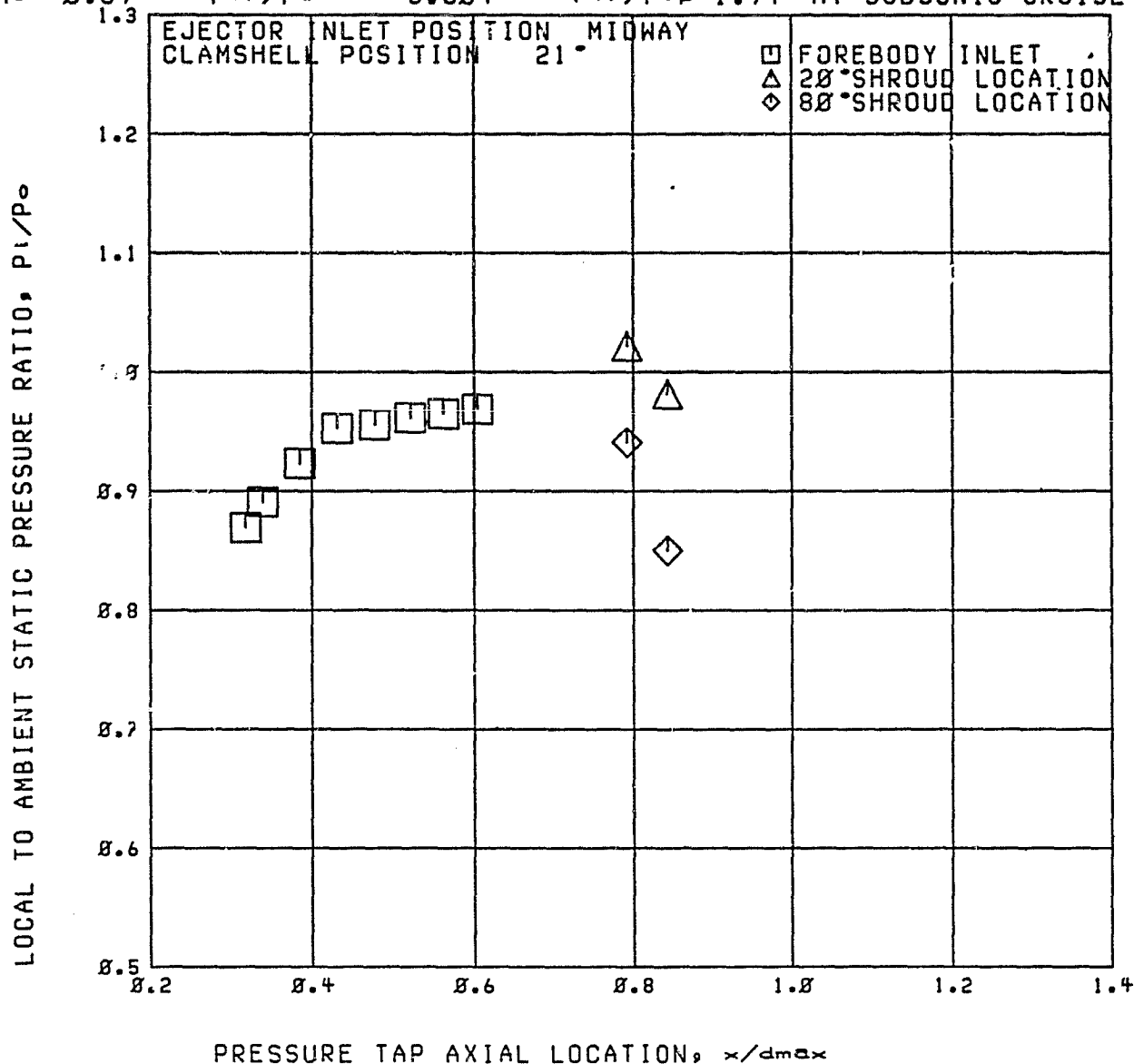
FIG 33

RDG=1841

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.89$   $P_{tr}/P_0 = 3.504$   $P_{tr}/P_{tp} = 1.94$  AT SUBSONIC CRUISE



RUN 33

A2

RDG=1842

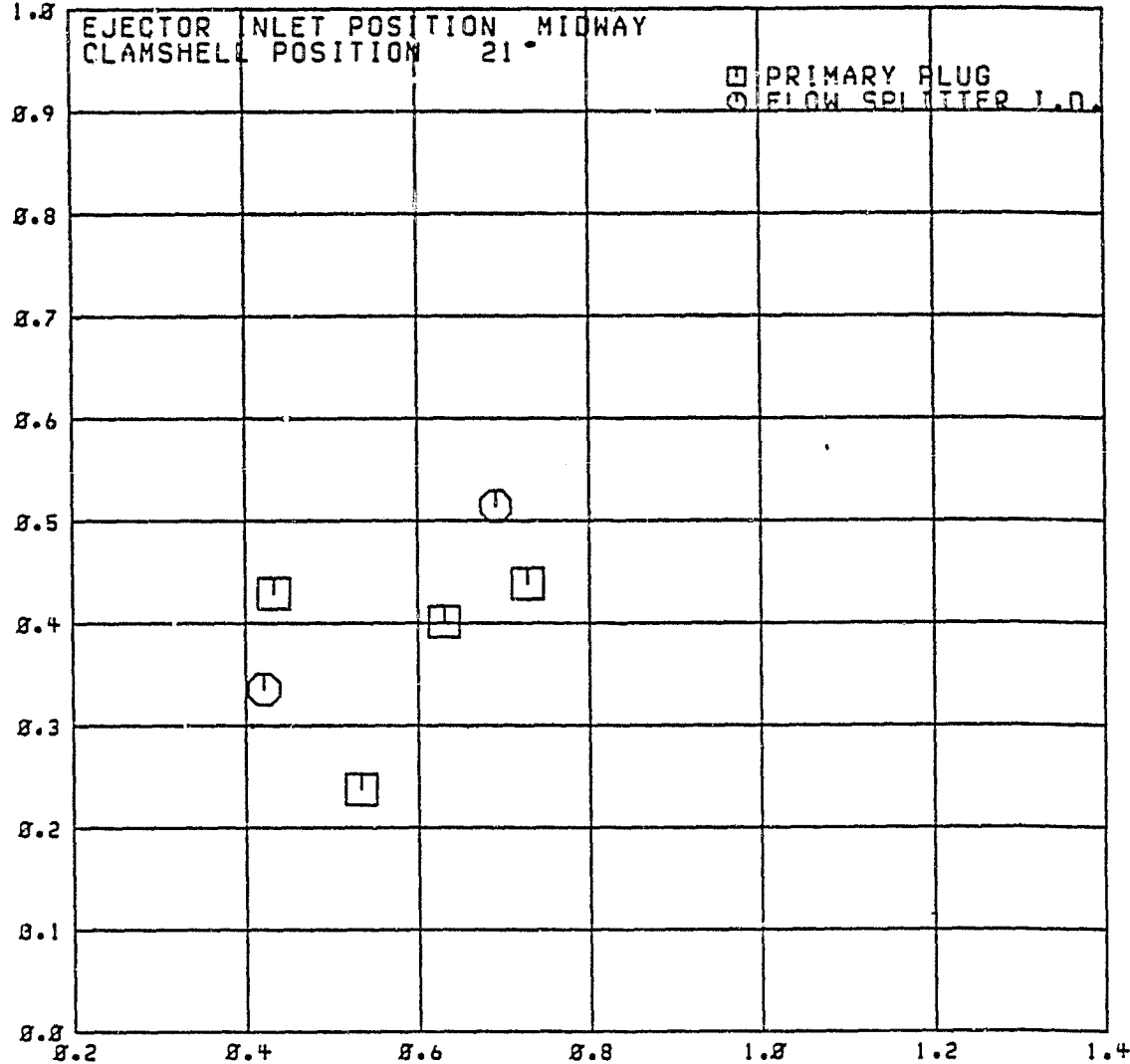
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_\infty = 0.89$

$P_{tr}/P_\infty = 4.497$

$P_{tr}/P_{trp} = 1.97$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_t/P_{trp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

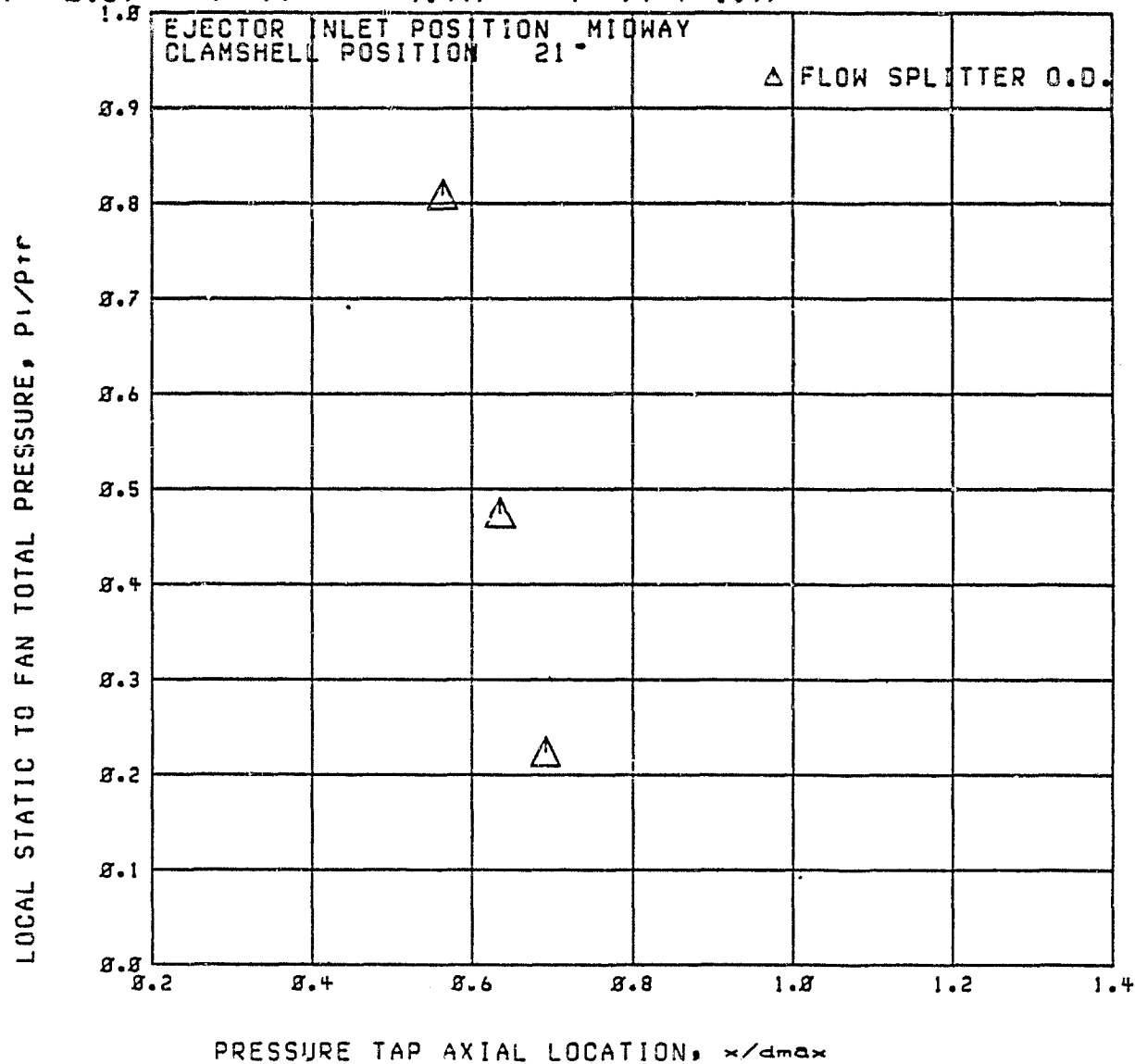
RUN 33

A2

RDG=1842

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$   $P_{tr}/P_{0e} = 4.497$   $P_{tr}/P_{tp} = 1.97$

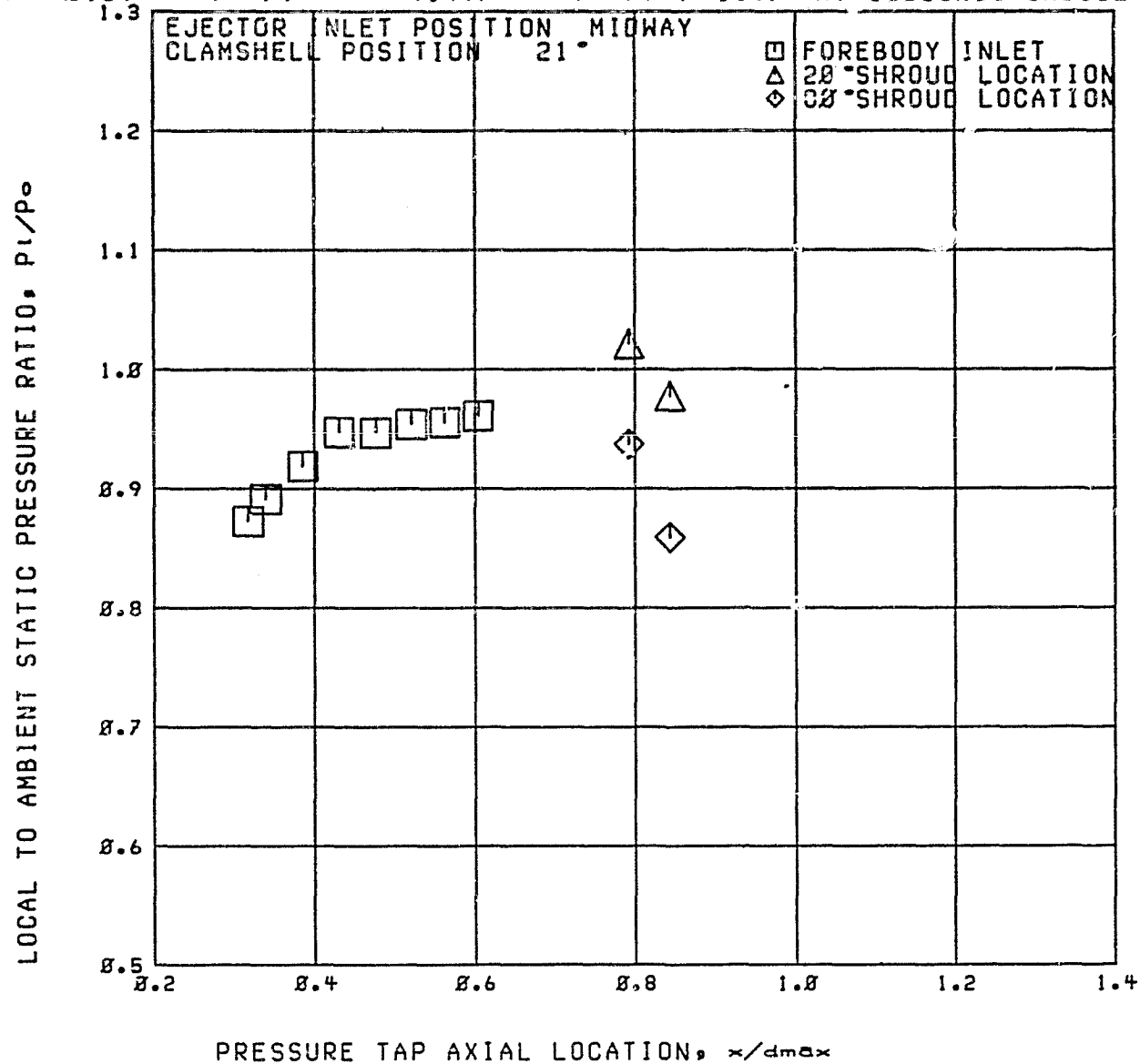


Run 33

RDG=1842

A2

## EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

 $M_o = 0.89$   $P_{tr}/P_o = 4.497$   $P_{tr}/P_{trP} = 1.97$  AT SUBSONIC CRUISE

RUN 33

A2

RDG=1843

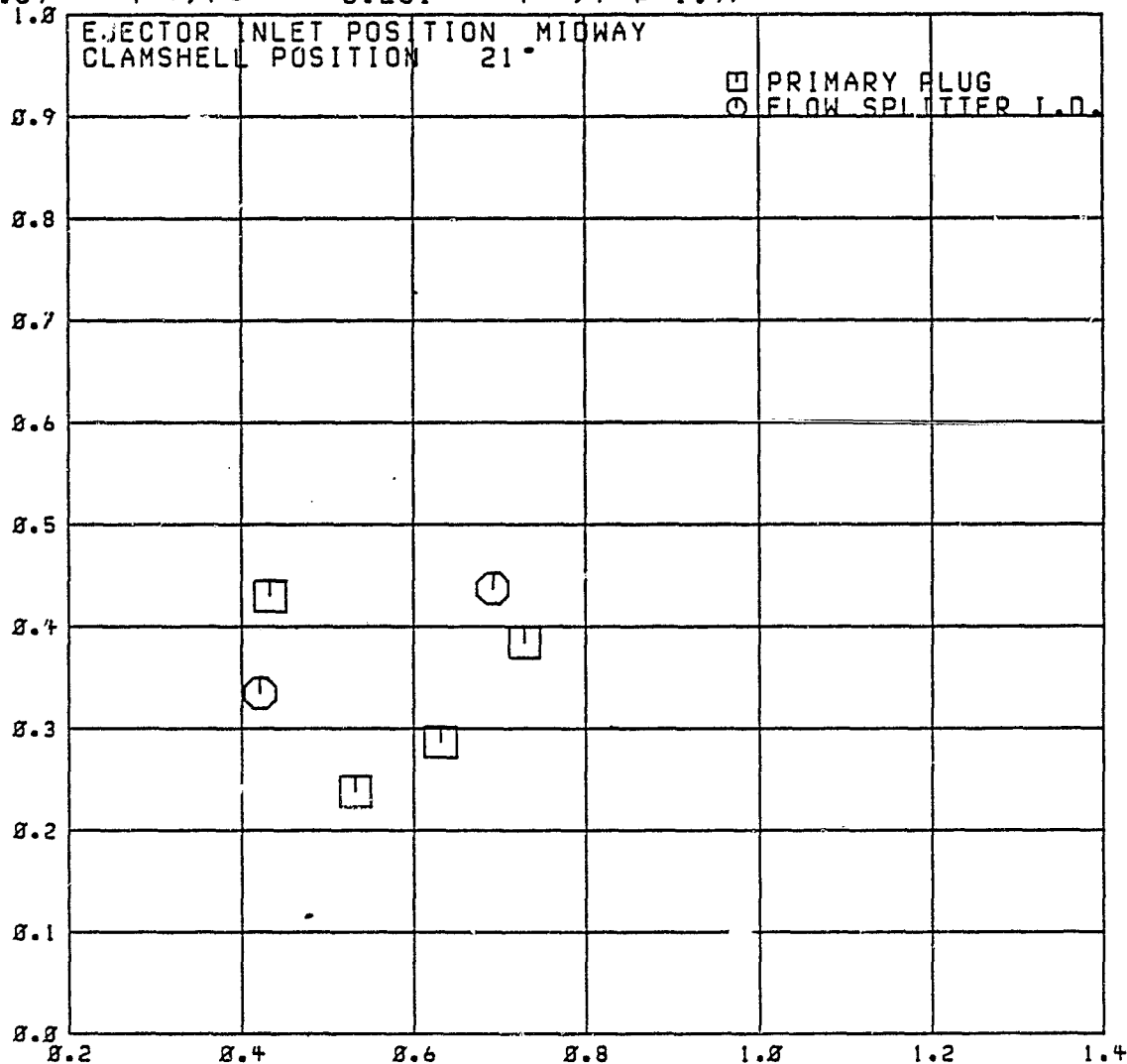
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_\infty = 0.89$

$P_{tr}/P_o = 5.261$

$P_{tr}/P_{tp} = 1.97$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

Run 33

RDG=1843

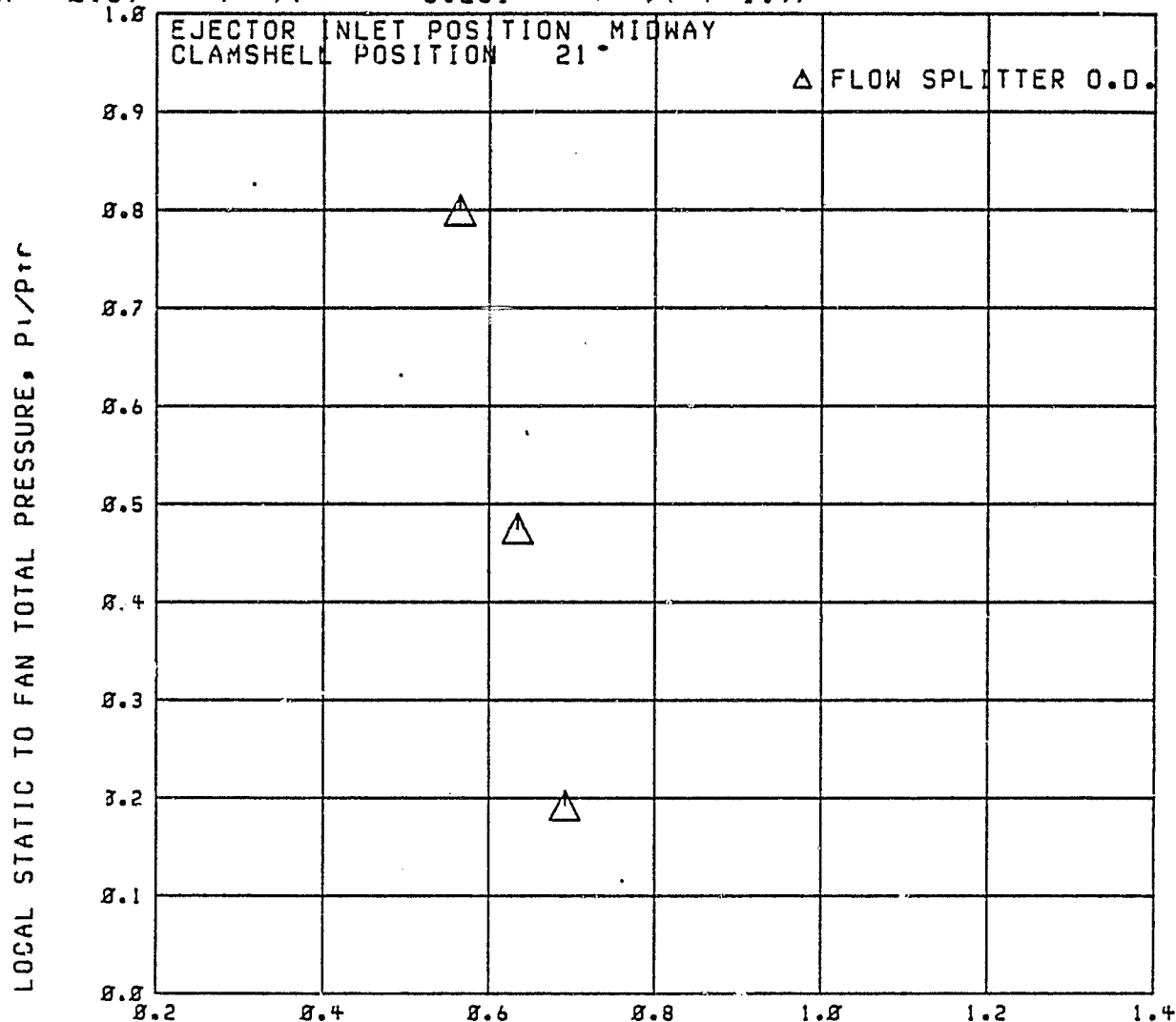
A2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 = 5.261$

$P_{tr}/P_{tp} = 1.97$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

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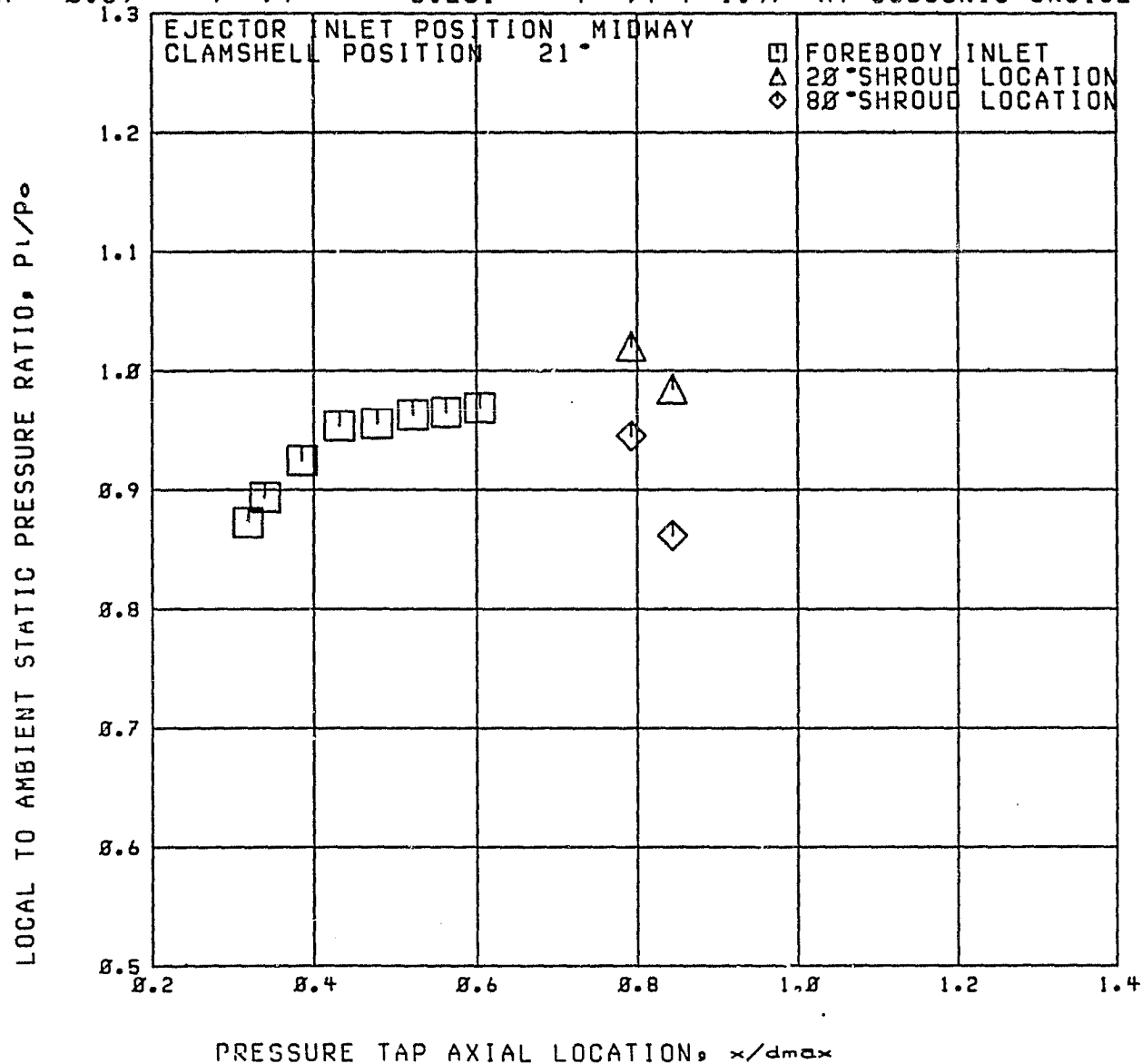
Run 33

RDG=1843

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 5.261$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



Run 33

A2

RDG=1844

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

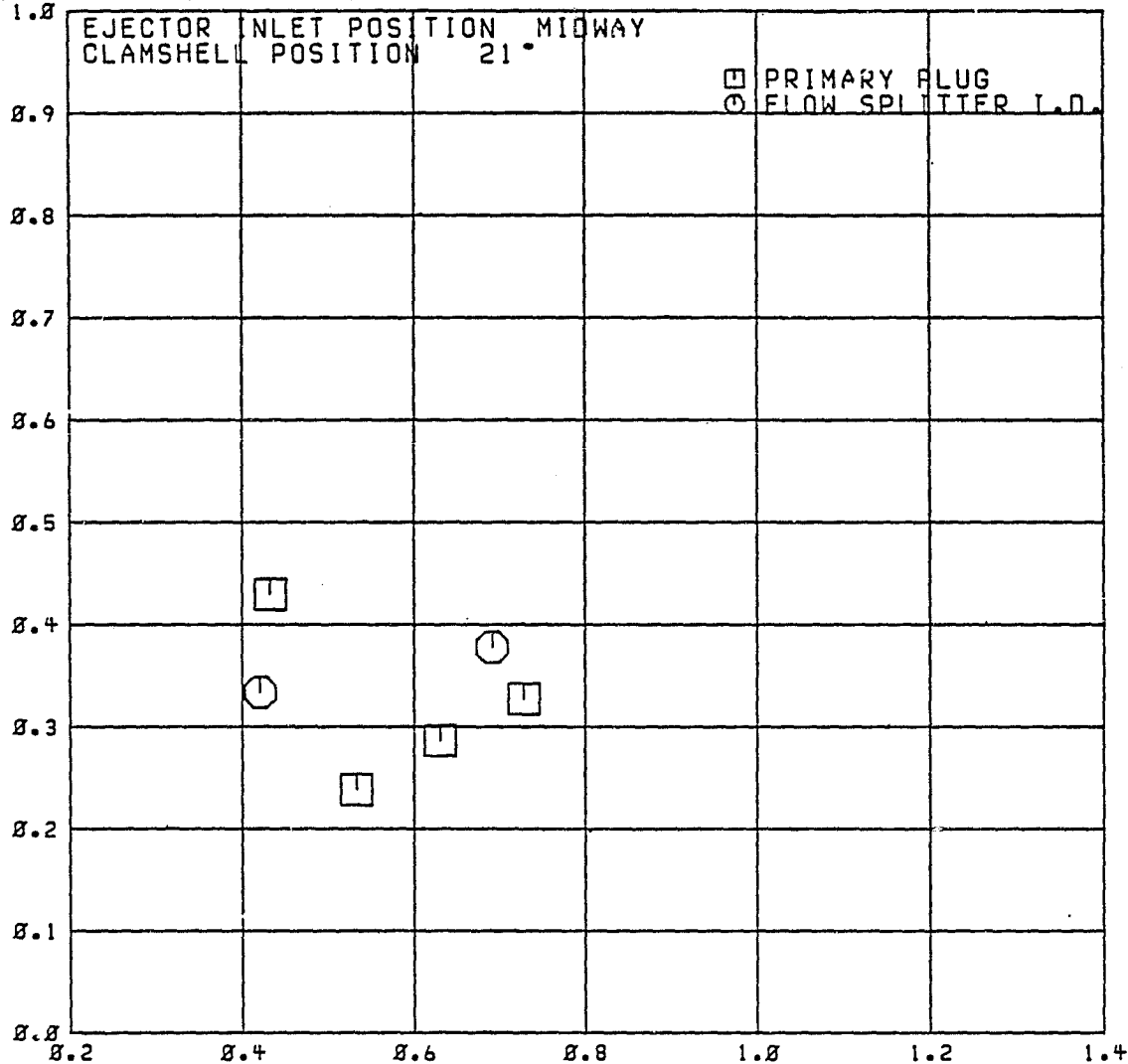
$M_0 = 0.89$

$P_{tr}/P_0 =$

6.023

$P_{tr}/P_{tp} = 1.96$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$



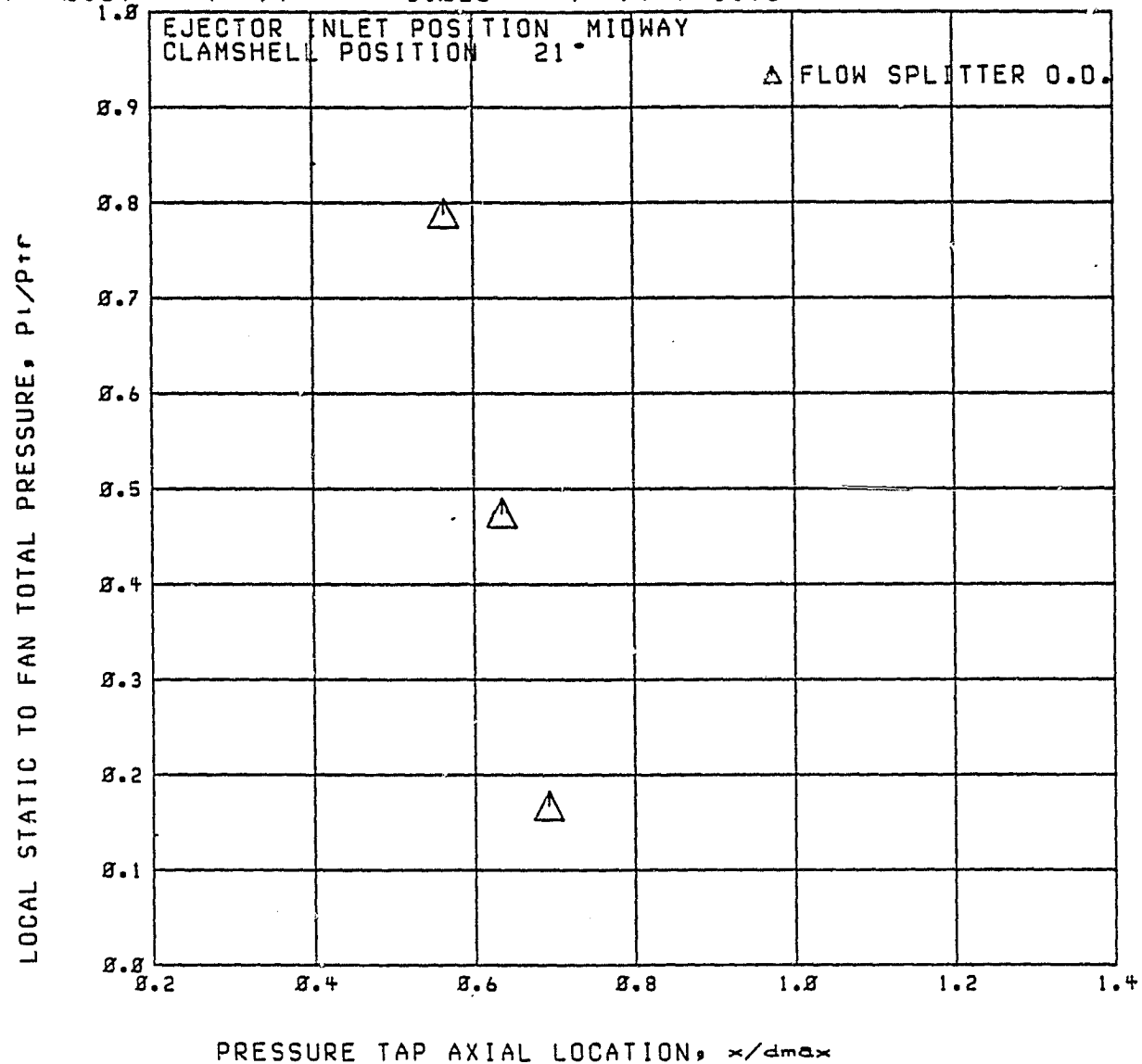
Run 33

A2

RDG=1844

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_\infty = 0.89$   $P_{tr}/P_o = 6.023$   $P_{tr}/P_{tp} = 1.96$



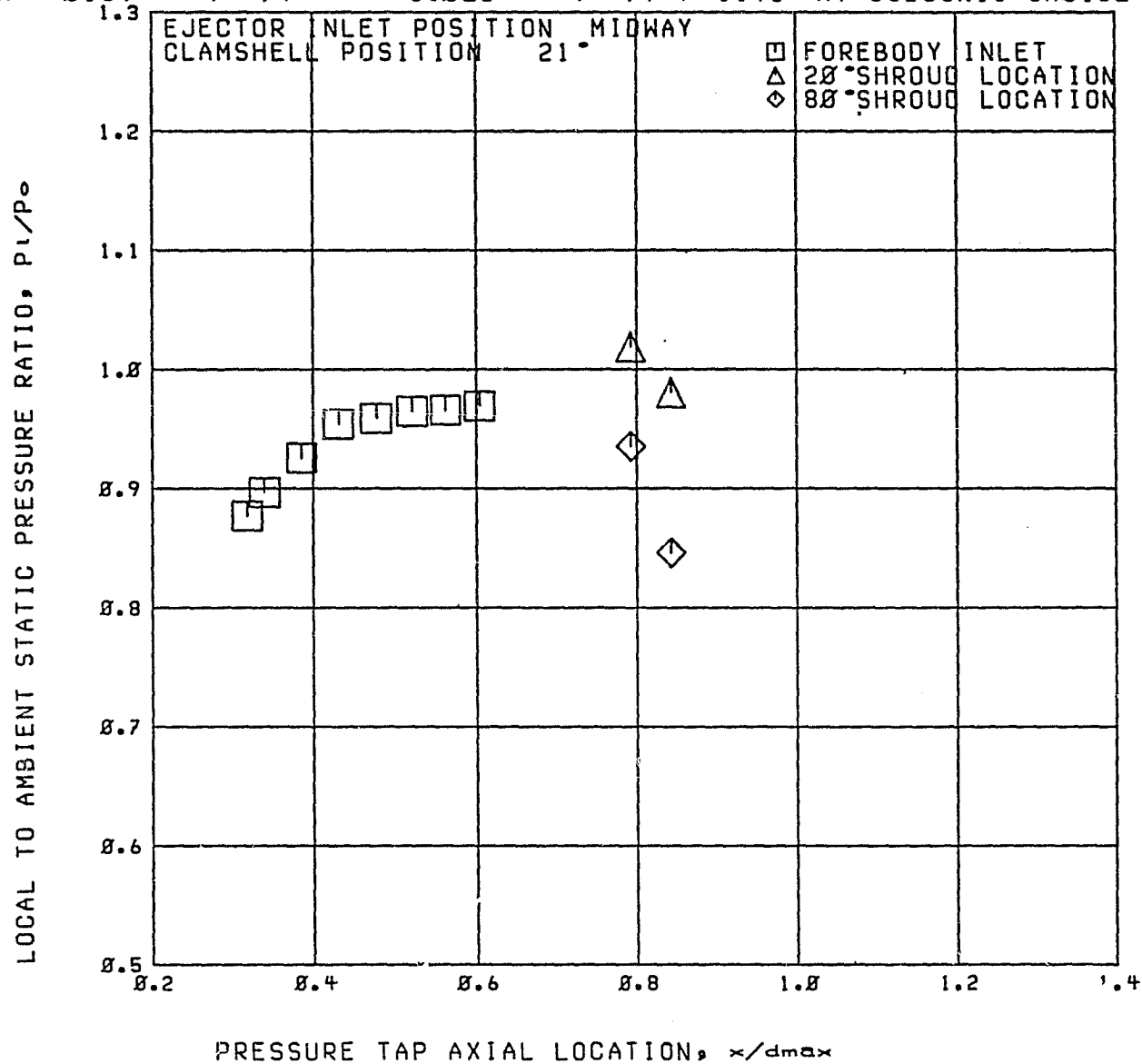
Run 33

RDG=1844

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 6.023$   $P_{tr}/P_{trp} = 1.96$  AT SUBSONIC CRUISE



RUN 33

A2

RDG=1845

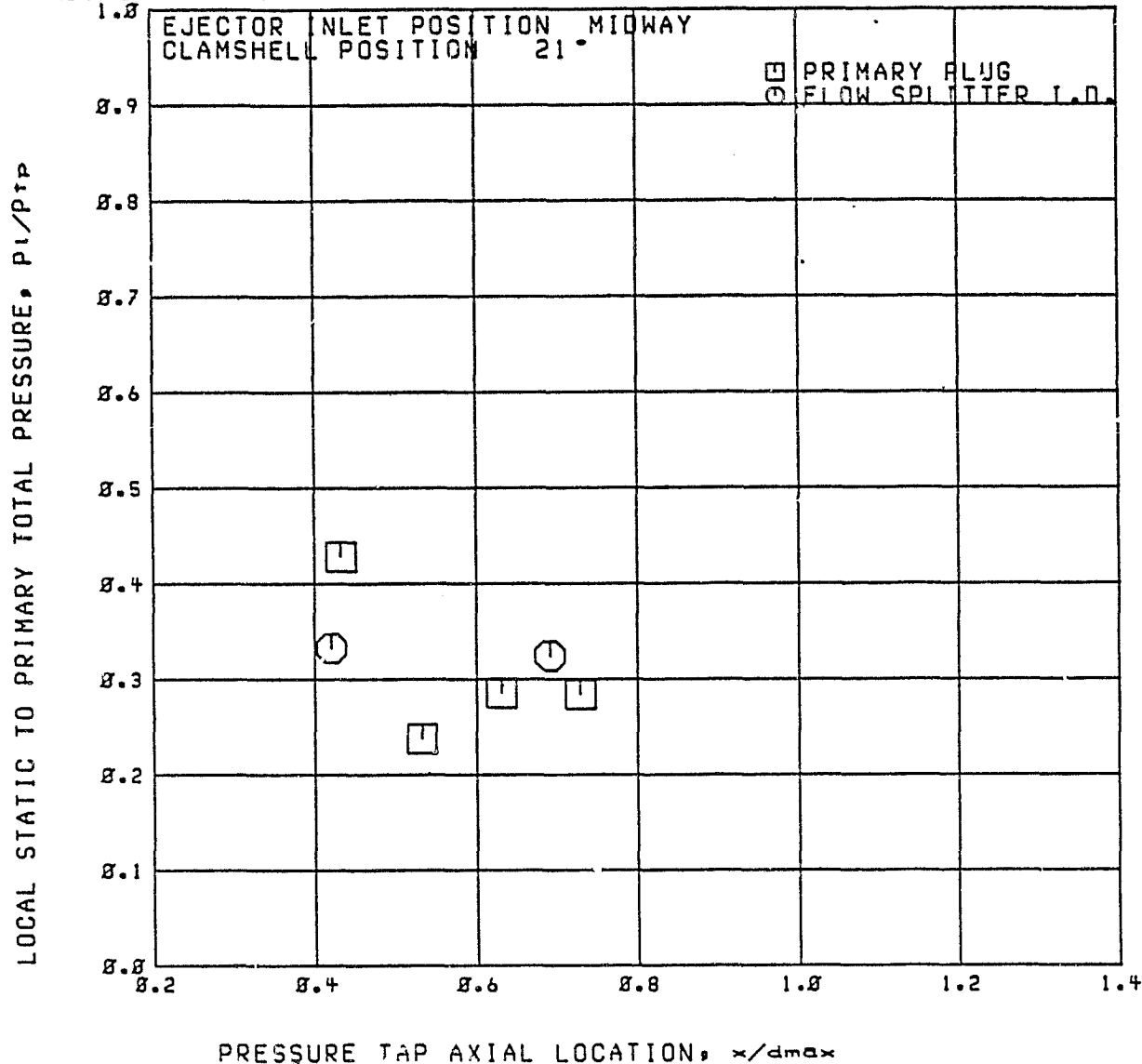
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$

$P_{tr}/P_0 =$

7.842

$P_{tr}/P_{tp} = 1.98$



RUN 33

RDG=1845

A2

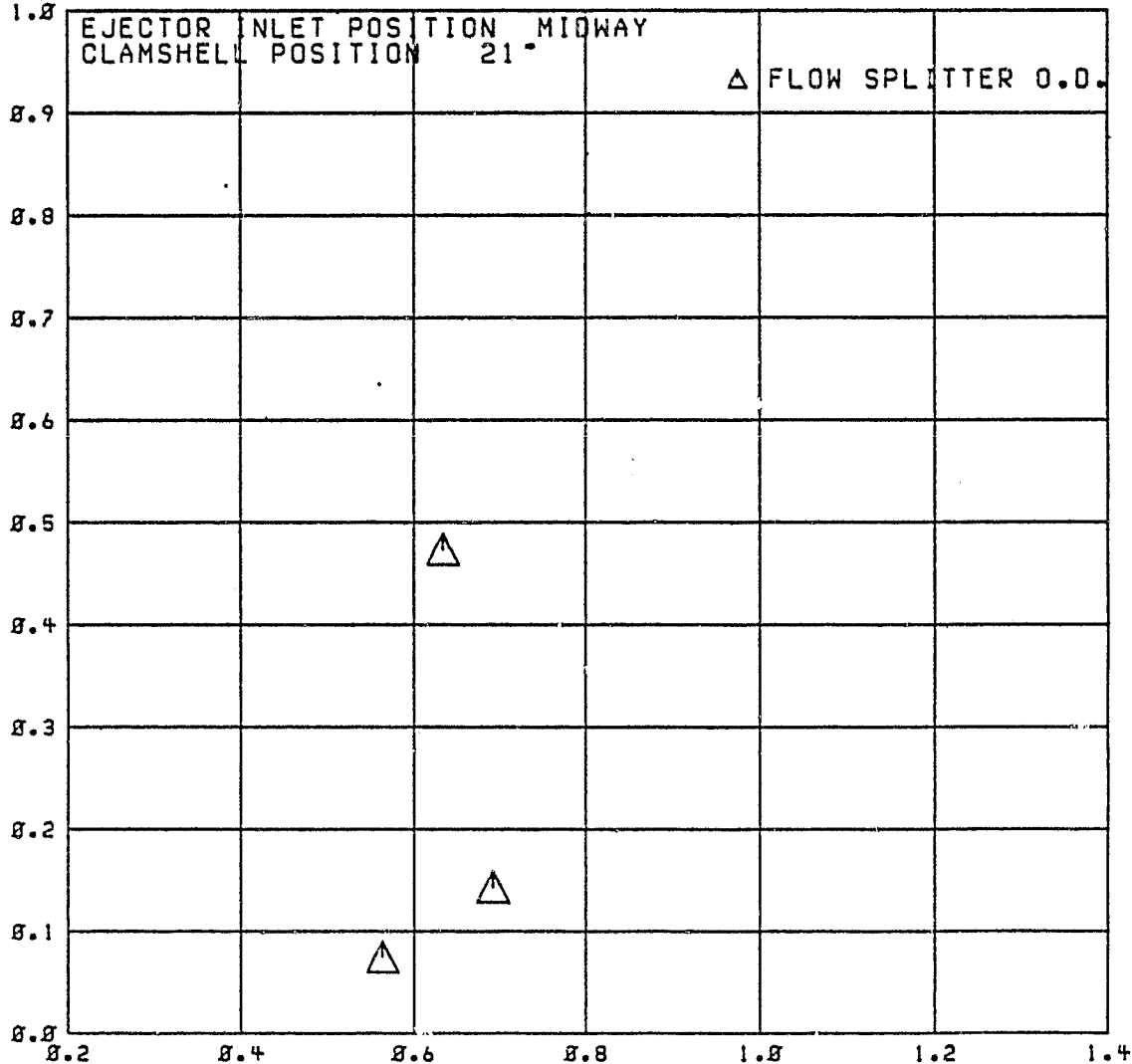
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.90$

$P_{tr}/P_0 = 7.842$

$P_{tr}/P_{tp} = 1.98$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

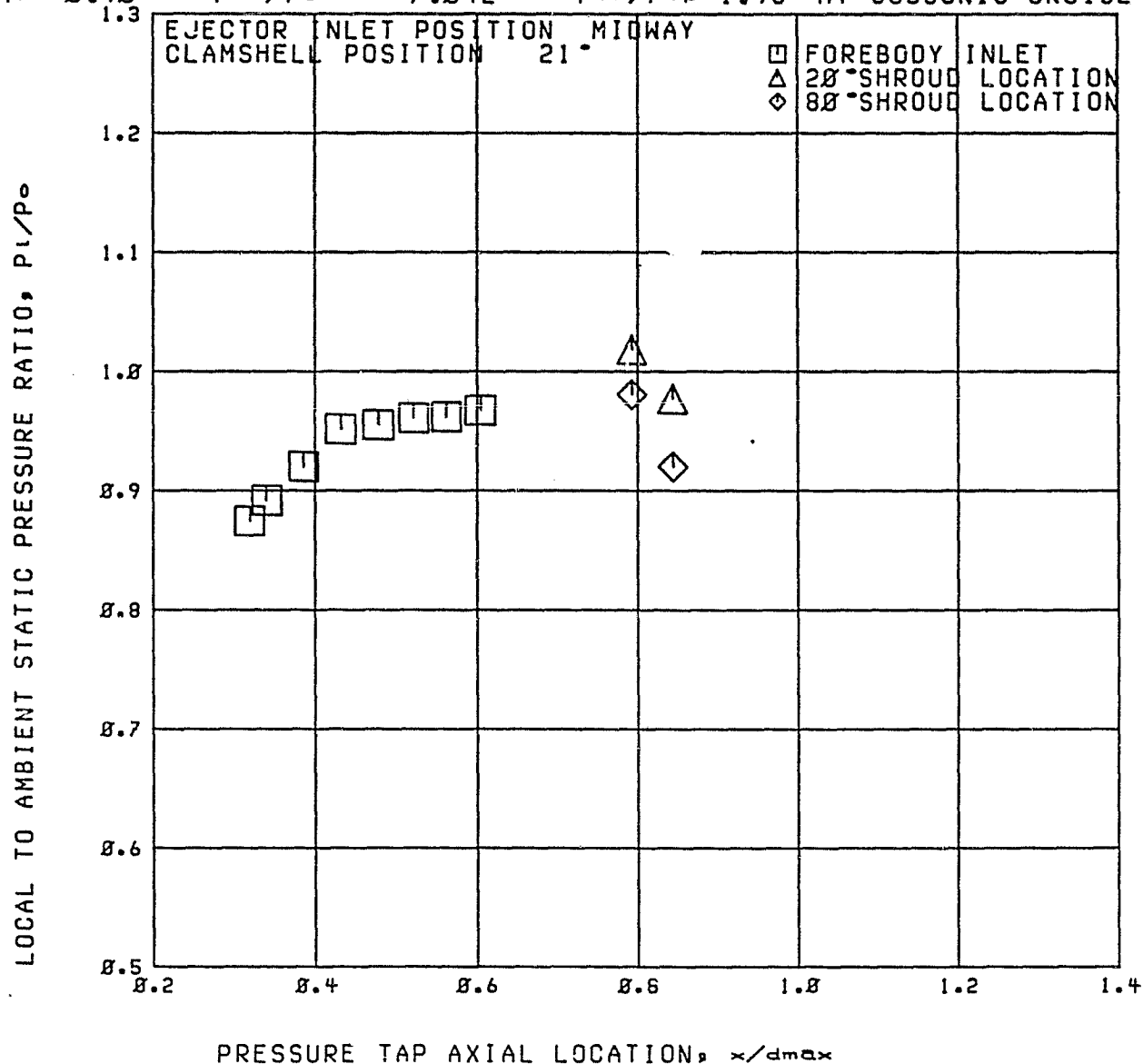
Run 33

RDG=1845

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.90$   $P_{tr}/P_o = 7.042$   $P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE



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RDG. 2001-2058

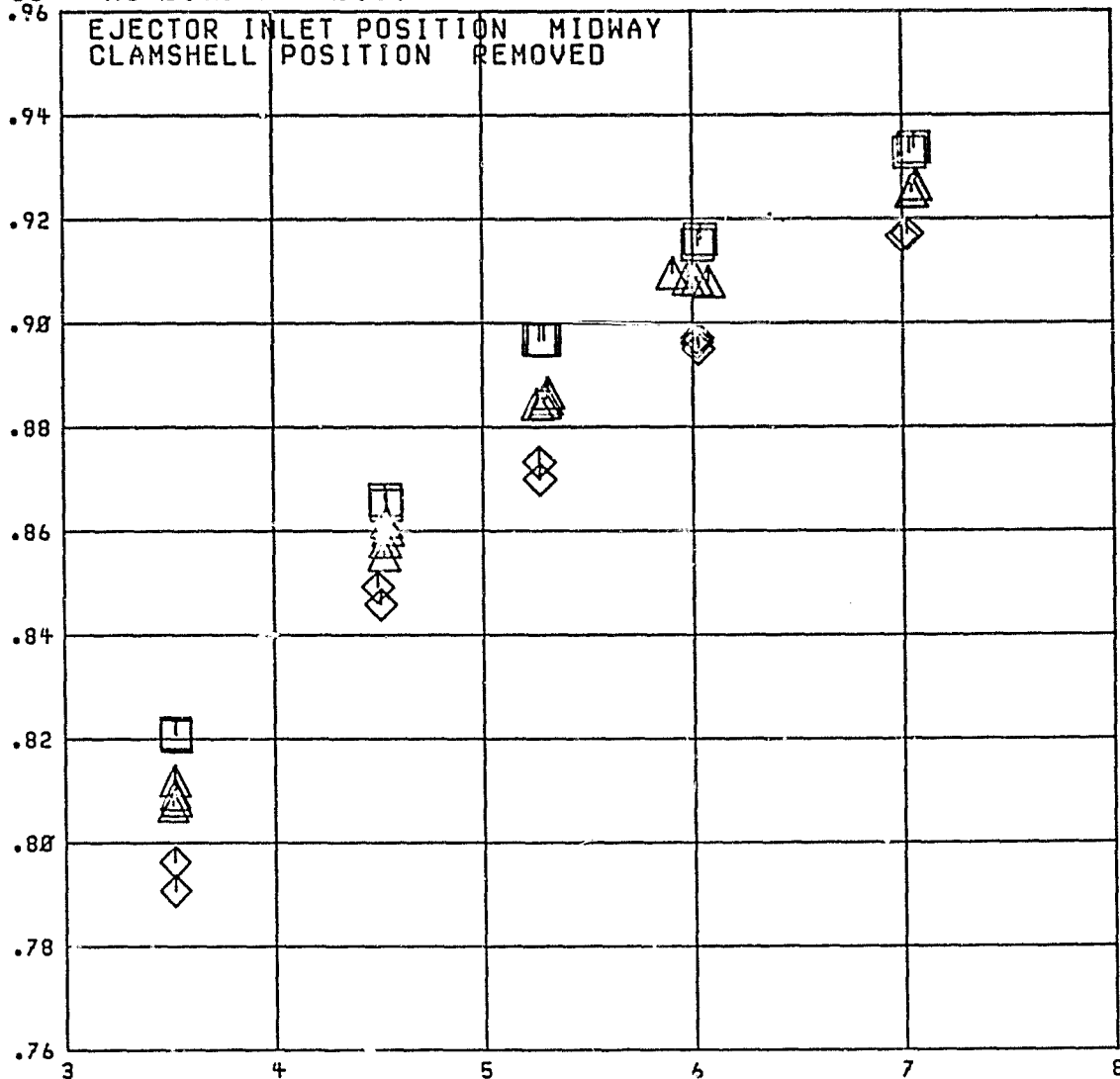
A2

SUBSONIC CRUISE

RUN 38  $M_0 = 0.90$   $M_\infty = 0.89$

$P_{tF}/P_{tP} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$

NOZZLE GROSS THRUST COEFFICIENT,  $CFP_1$



FAN NOZZLE PRESSURE RATIO,  $PTF/PO$

RDG. 2001-2058

A2

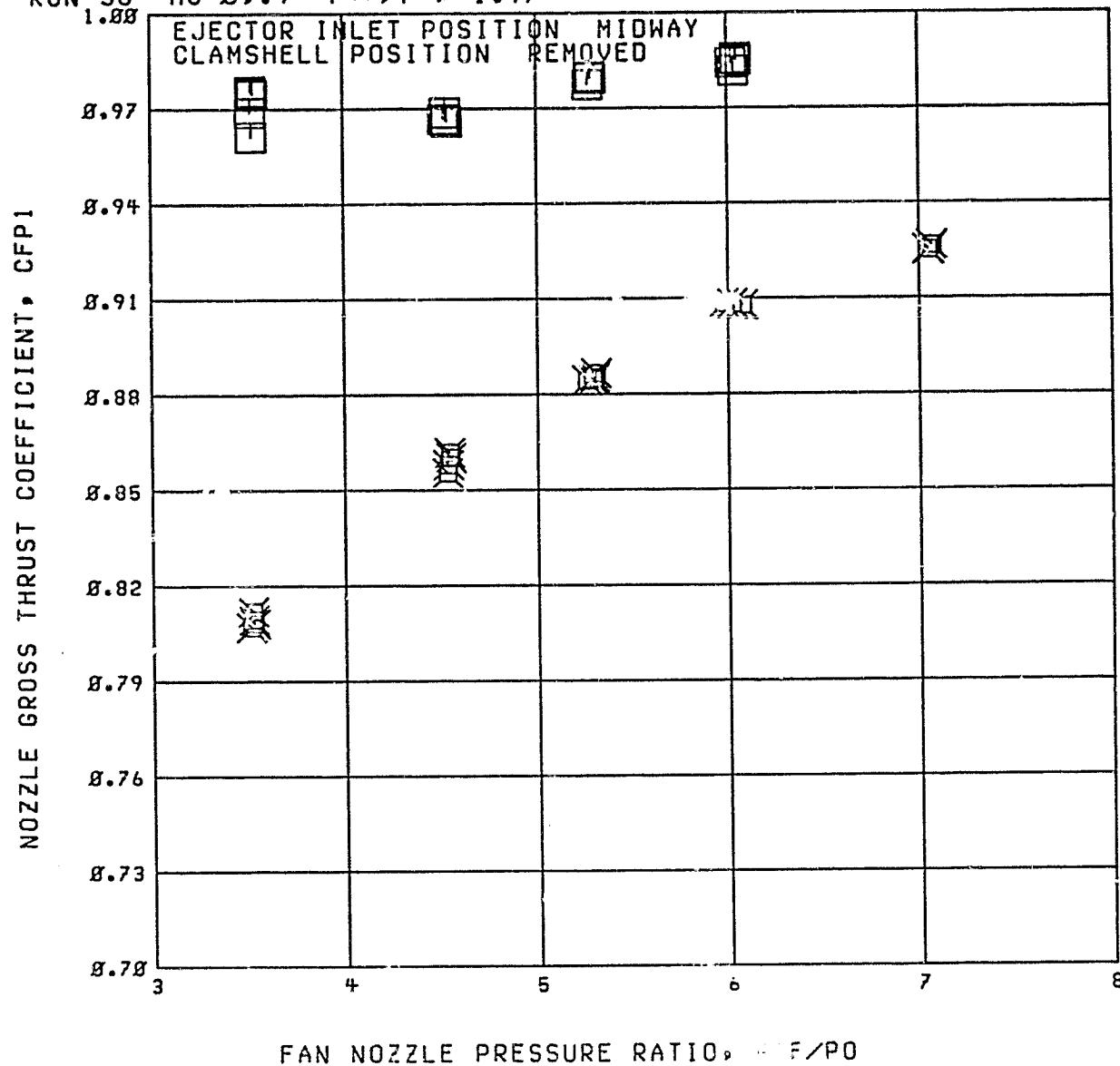
SUBSONIC CRUISE

$M_0 =$

$\square = 0.8$

$\boxtimes = 0.98$

RUN 38  $M_0 = 0.9$   $P_{tF}/P_{tP} = 1.97$



RDG. 2001-2058

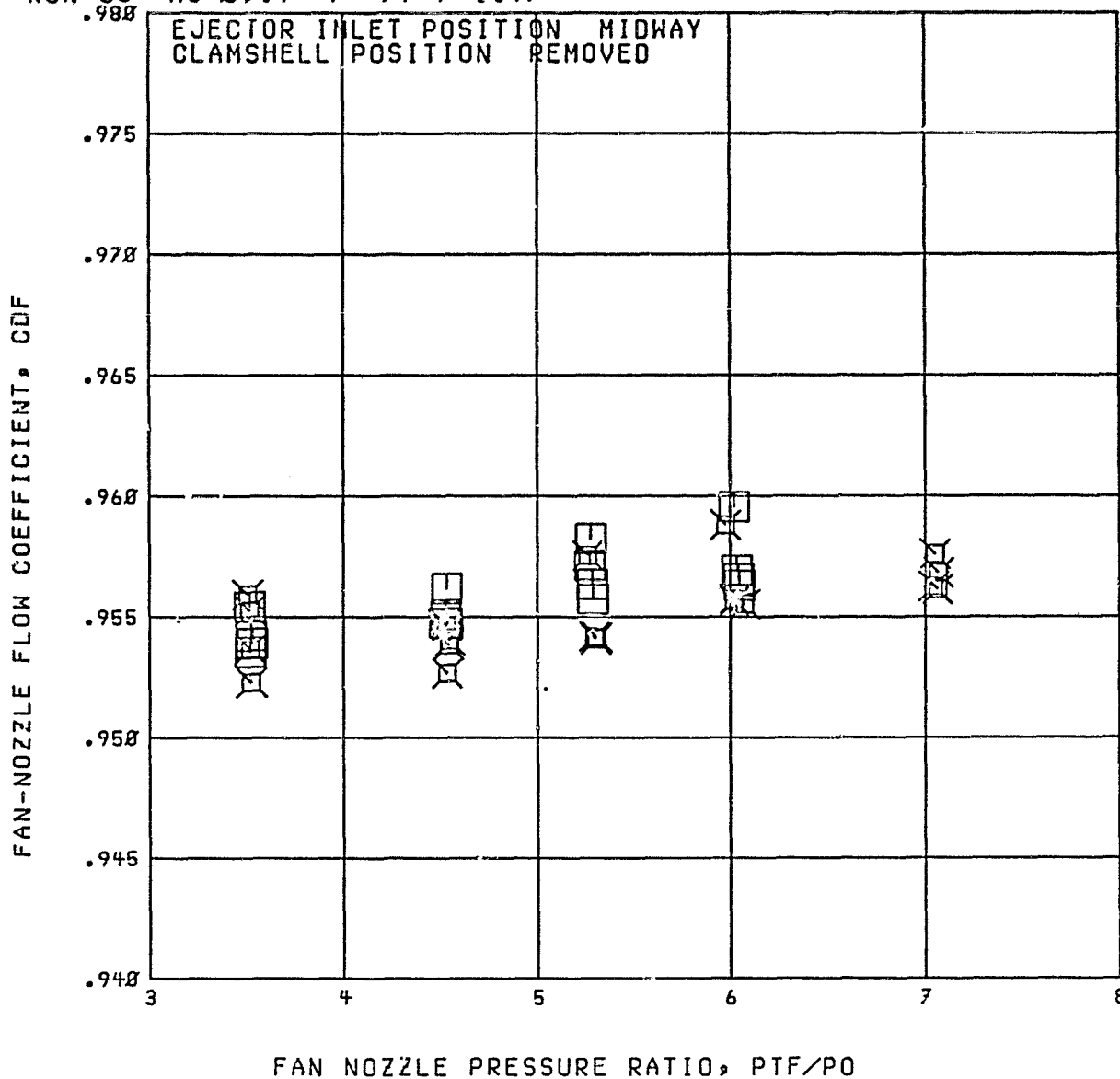
A2

SUBSONIC CRUISE

$M_0 =$

$\square = 0.8$   
 $\times = 0.90$

RUN 38  $M_0=0.9$   $P_{tr}/P_{tp}=1.97$





RDG. 2001 - 2058

A2

SUBSONIC CRUISE

$M_0 =$

$\square = 0.8$

$\times = 0.98$

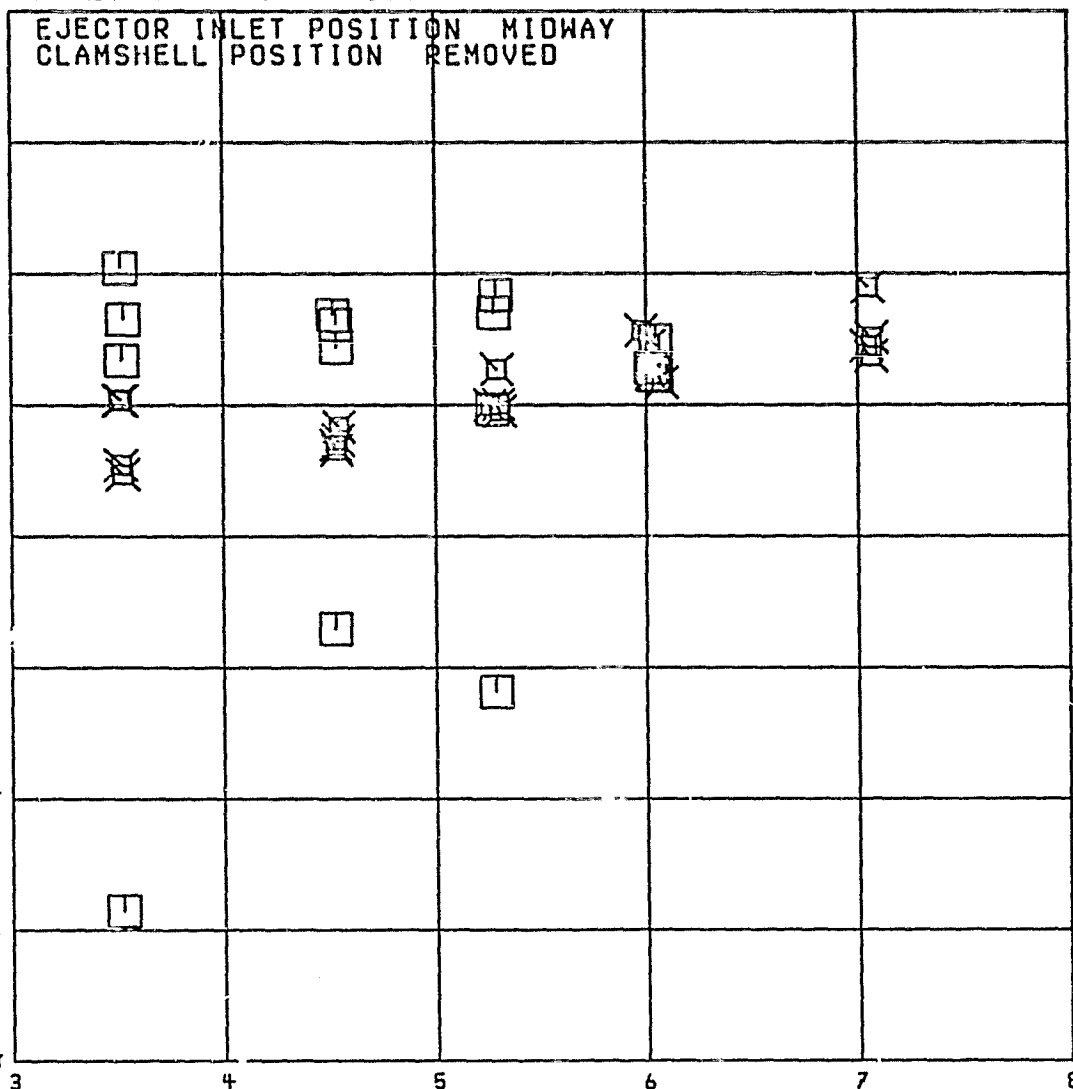
RUN 38  $M_0 = 0.9$   $P_{tr}/P_{td} = 1.97$

1.000

EJECTOR INLET POSITION MIDWAY  
CLAMSHELL POSITION REMOVED

PRIMARY-NOZZLE FLOW COEFFICIENT, CDP

0.995  
0.990  
0.985  
0.980  
0.975  
0.970  
0.965  
0.960



FAN NOZZLE PRESSURE RATIO, PTF/PO

RUN 3B

A2

RDG=2812

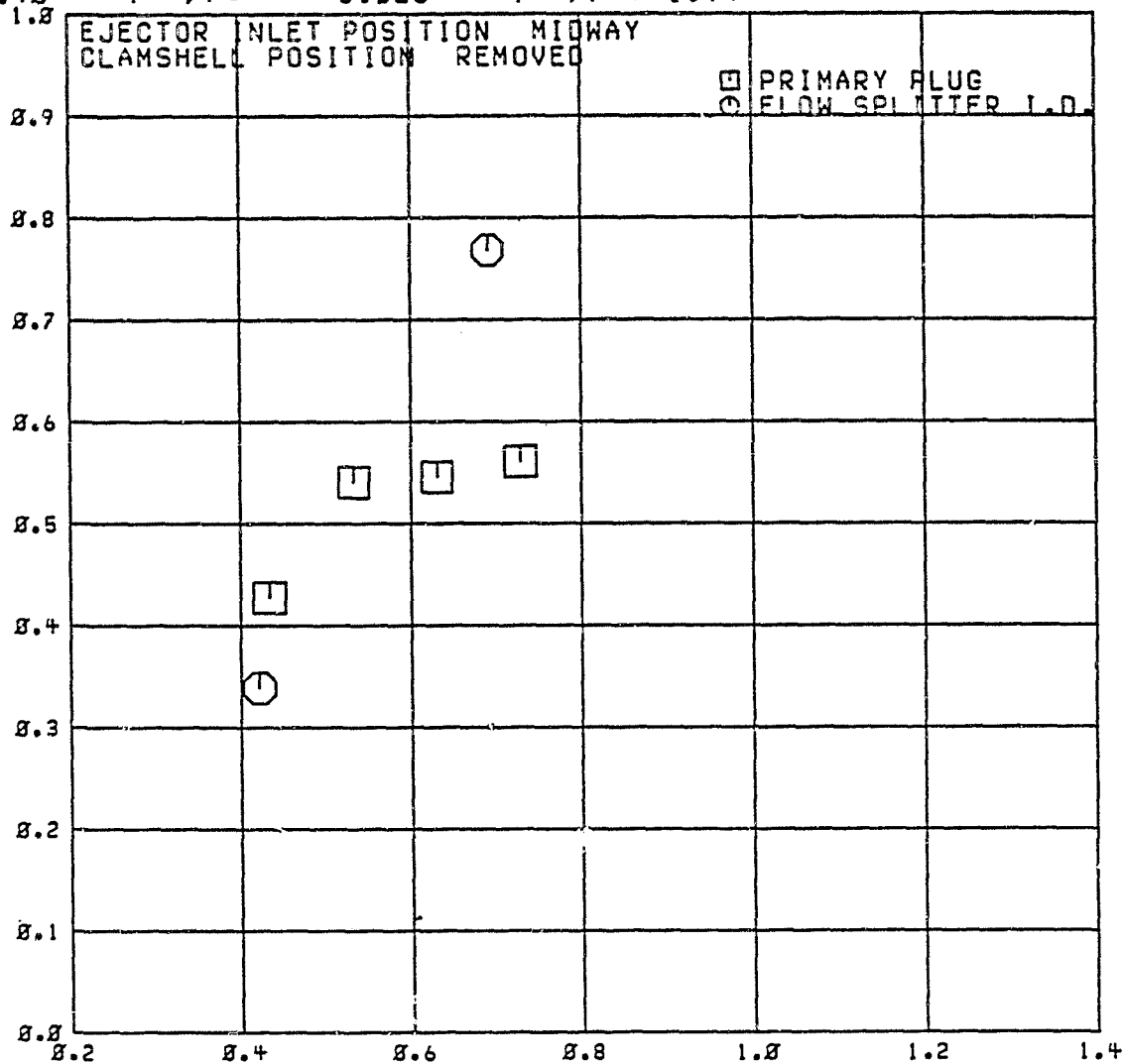
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$

$P_{tr}/P_0 = 3.528$

$P_{tr}/P_{tr0} = 1.94$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

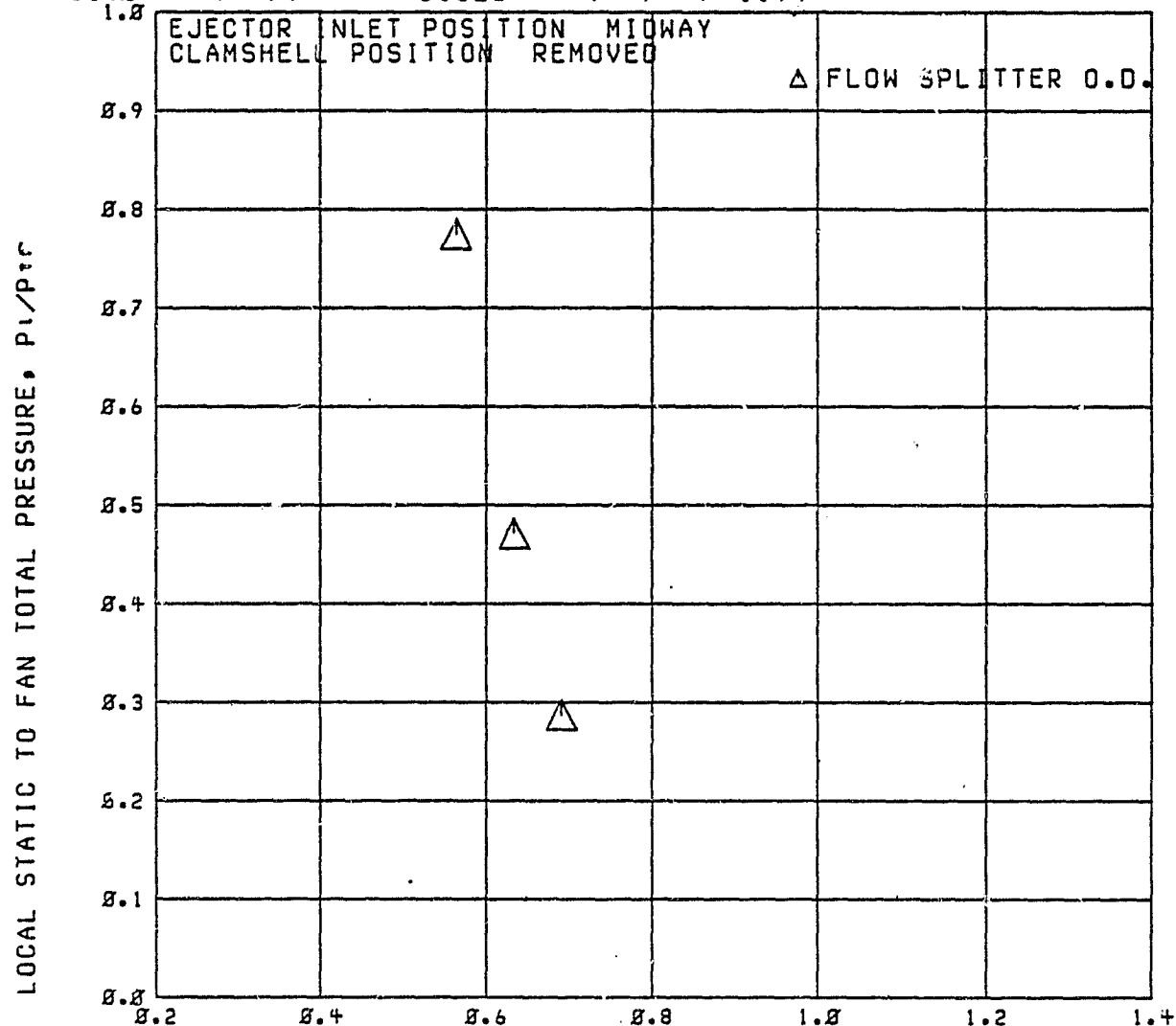
RUN 38

A2

RDG=2012

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.90$   $P_{tr}/P_0 = 3.528$   $P_{tr}/P_{tp} = 1.94$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 38

A2

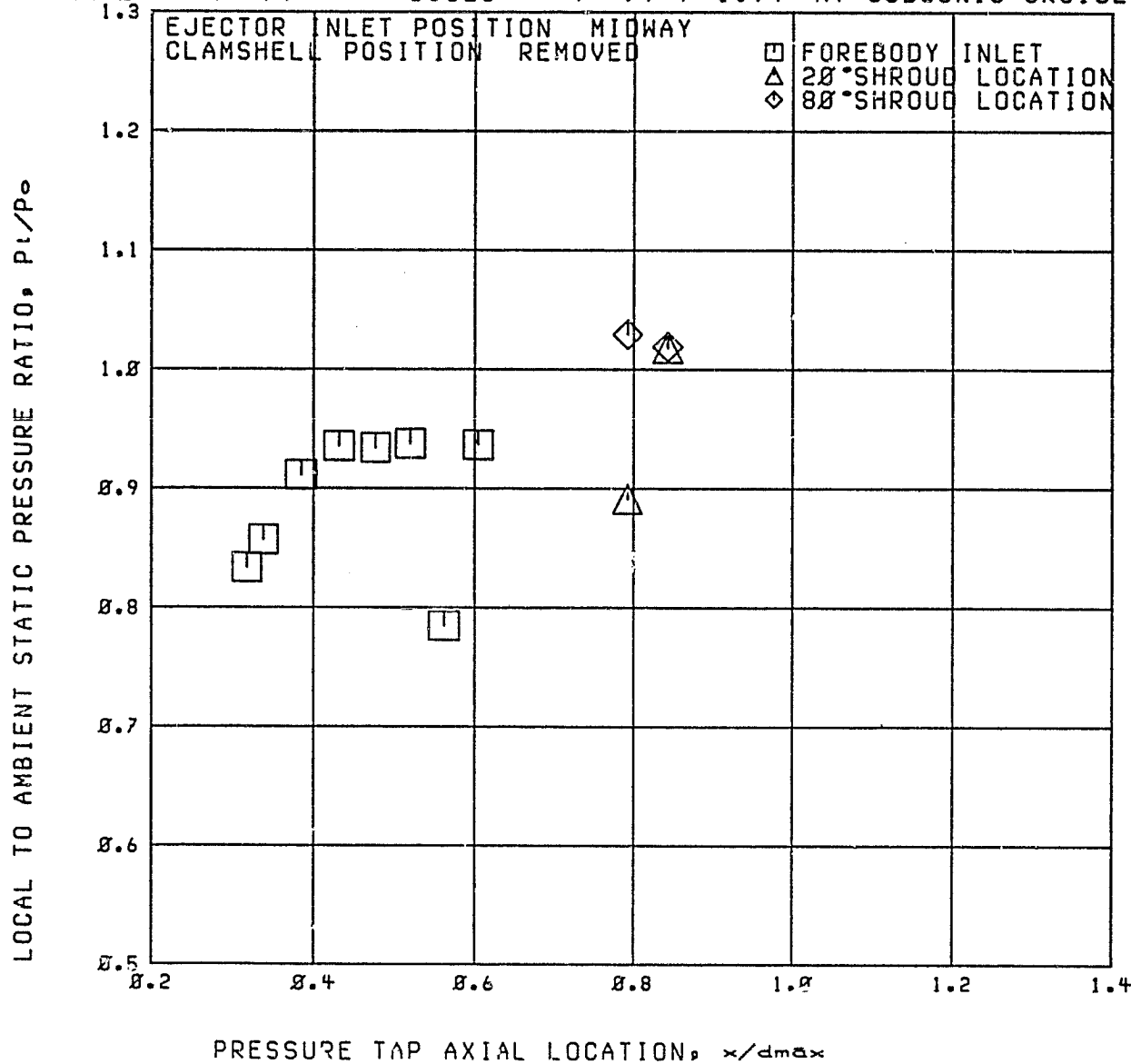
RDG=2012

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.90$

$P_{tr}/P_0 = 3.528$

$P_{tr}/P_{tr} = 1.94$  AT SUBSONIC CRUISE



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Run 38

A2

RDG=2013

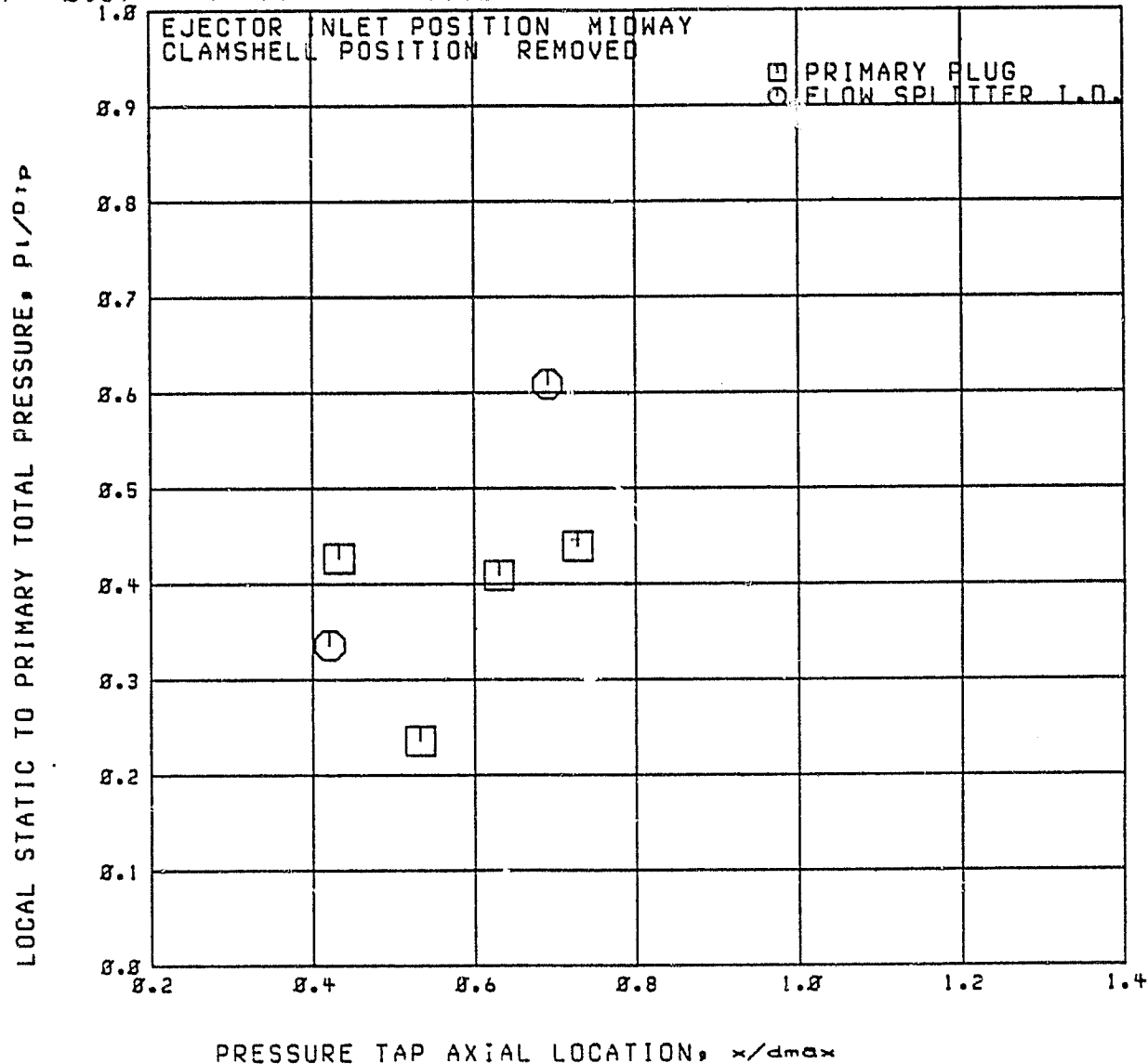
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_\infty = 0.89$

$P_{tr}/P_o =$

4.532

$P_{tr}/P_{trp} = 1.98$



RUN 38

A2

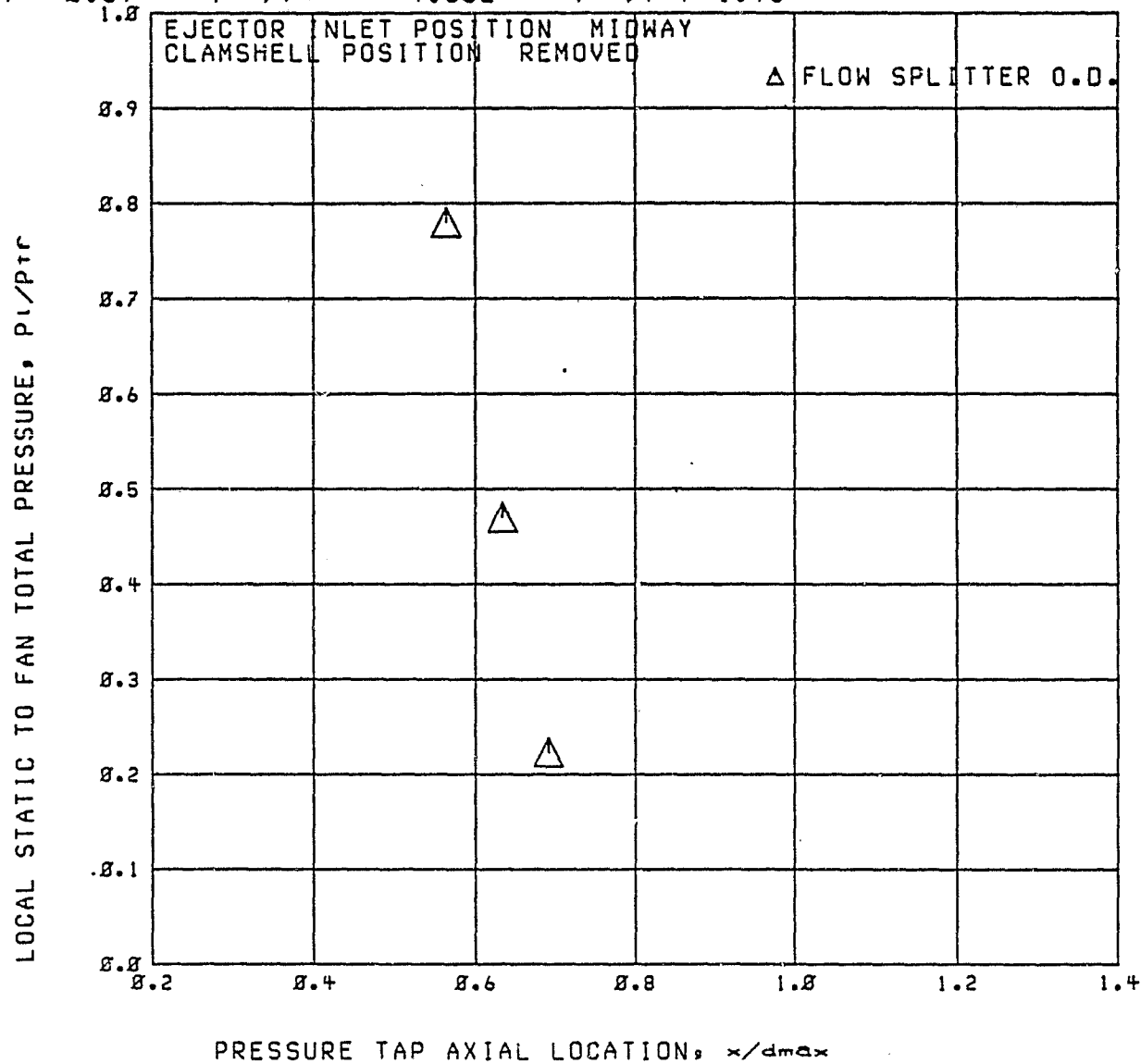
RDG=2013

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$

$P_{tr}/P_o = 4.532$

$P_{tr}/P_{tp} = 1.98$



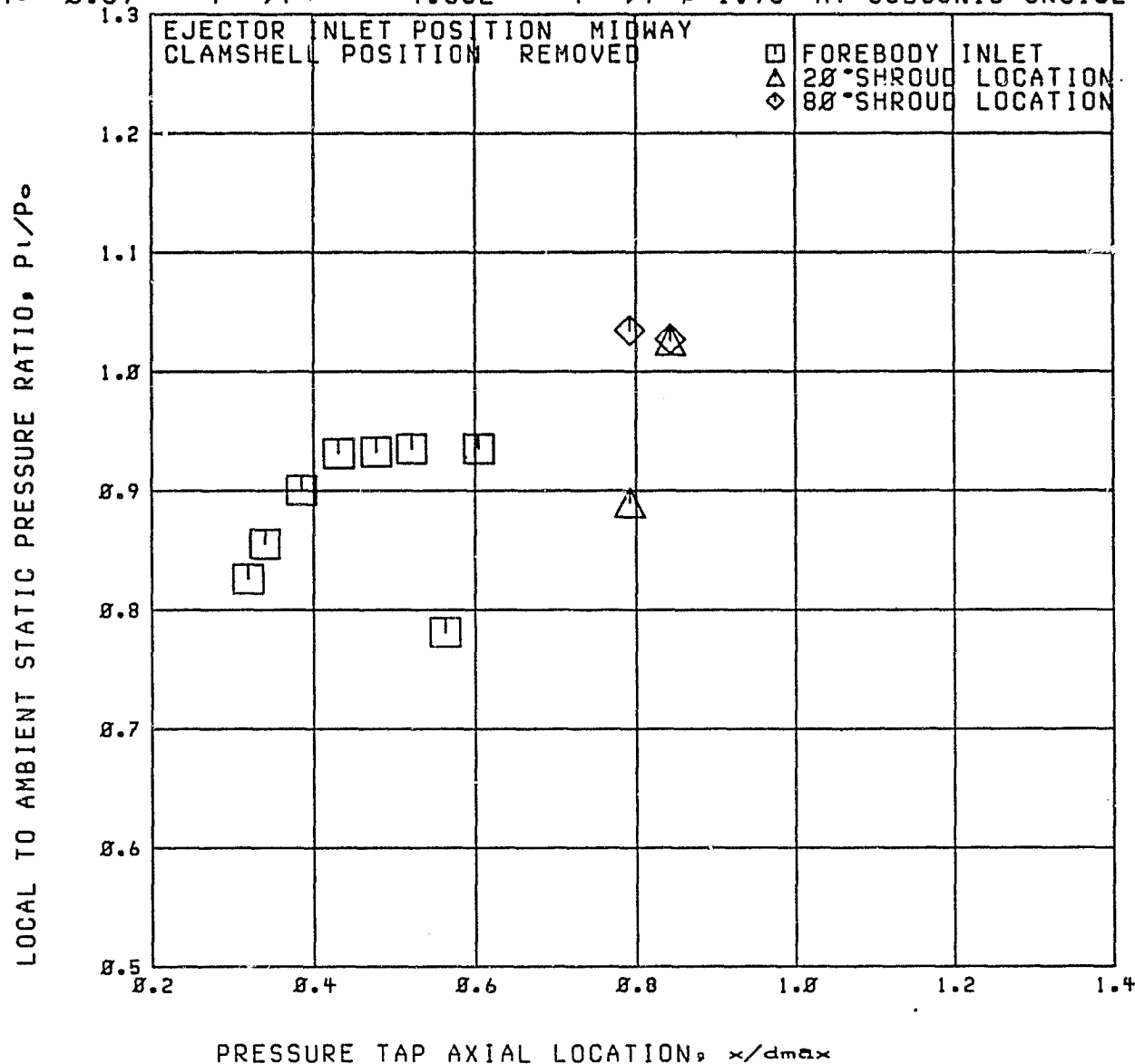
RUN 3B

A2

RDG=2013

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$      $P_{tr}/P_o = 4.532$      $P_{tr}/P_{tp} = 1.98$     AT SUBSONIC CRUISE



Run 38

A2

ROG=2014

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

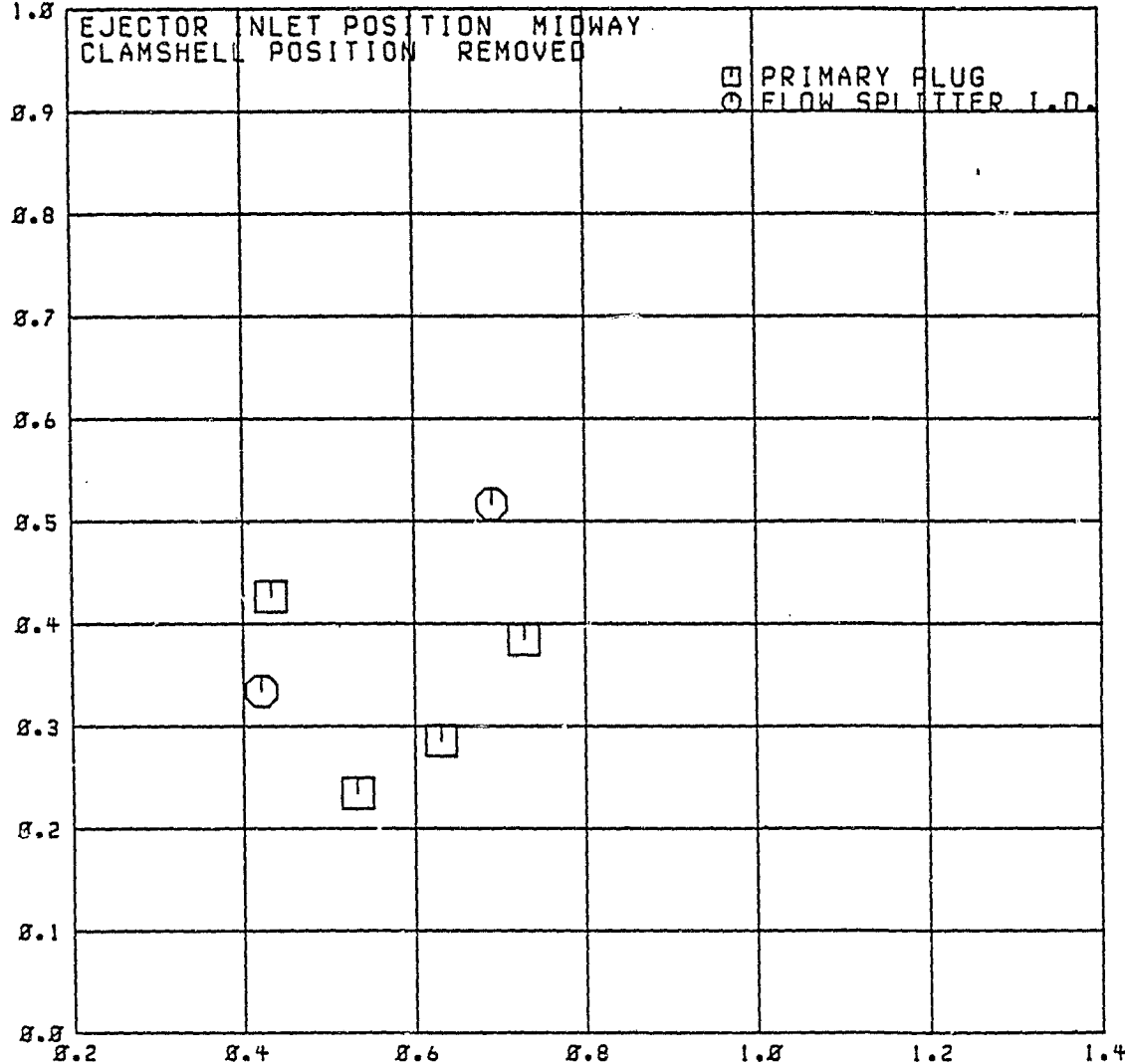
$M_0 = 0.89$

$P_{tr}/P_0 =$

5.295

$P_{tr}/P_{tp} = 1.98$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$



Run 30

A2

RDG=2014

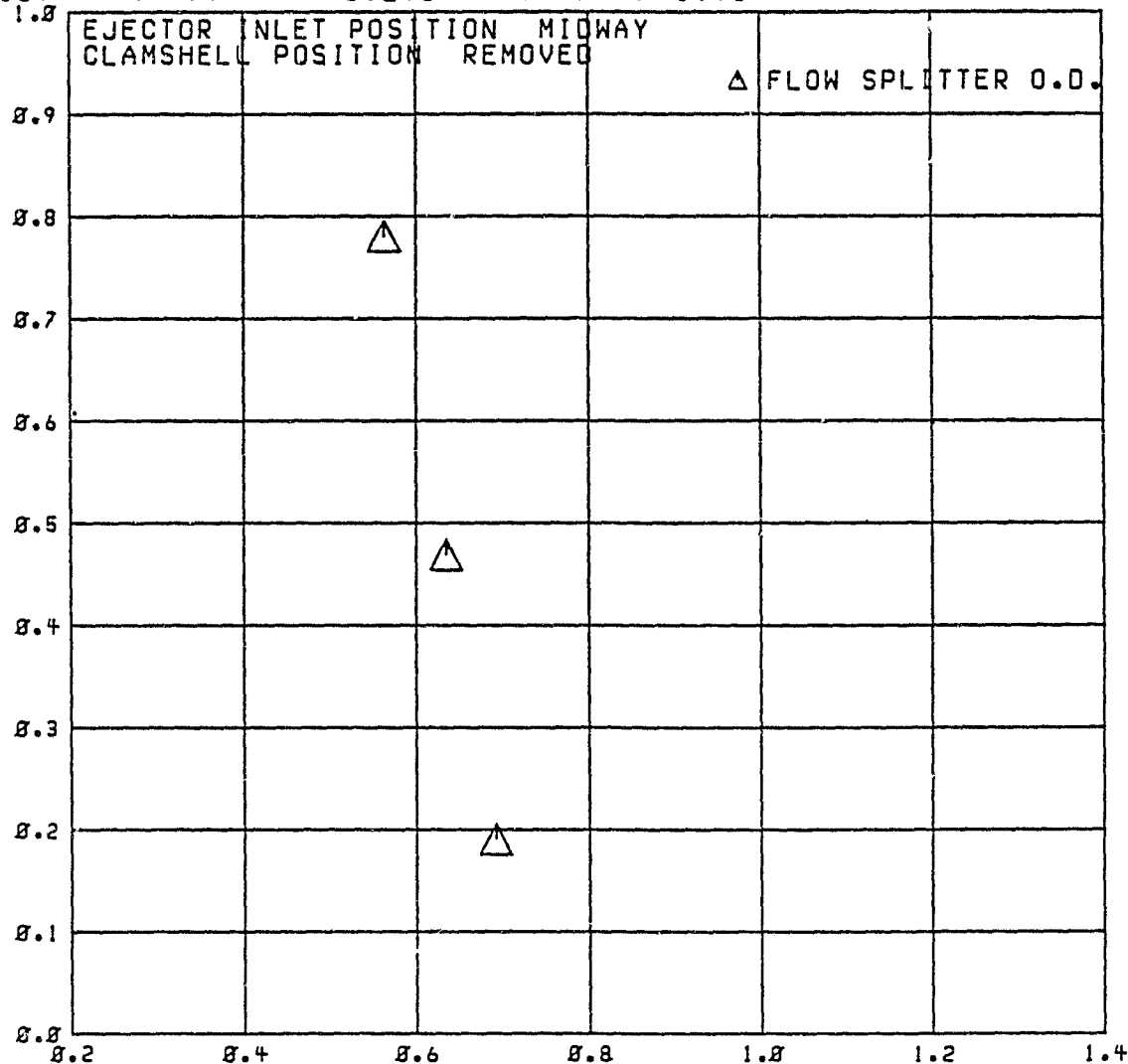
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 = 5.295$

$P_{tr}/P_{tp} = 1.98$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

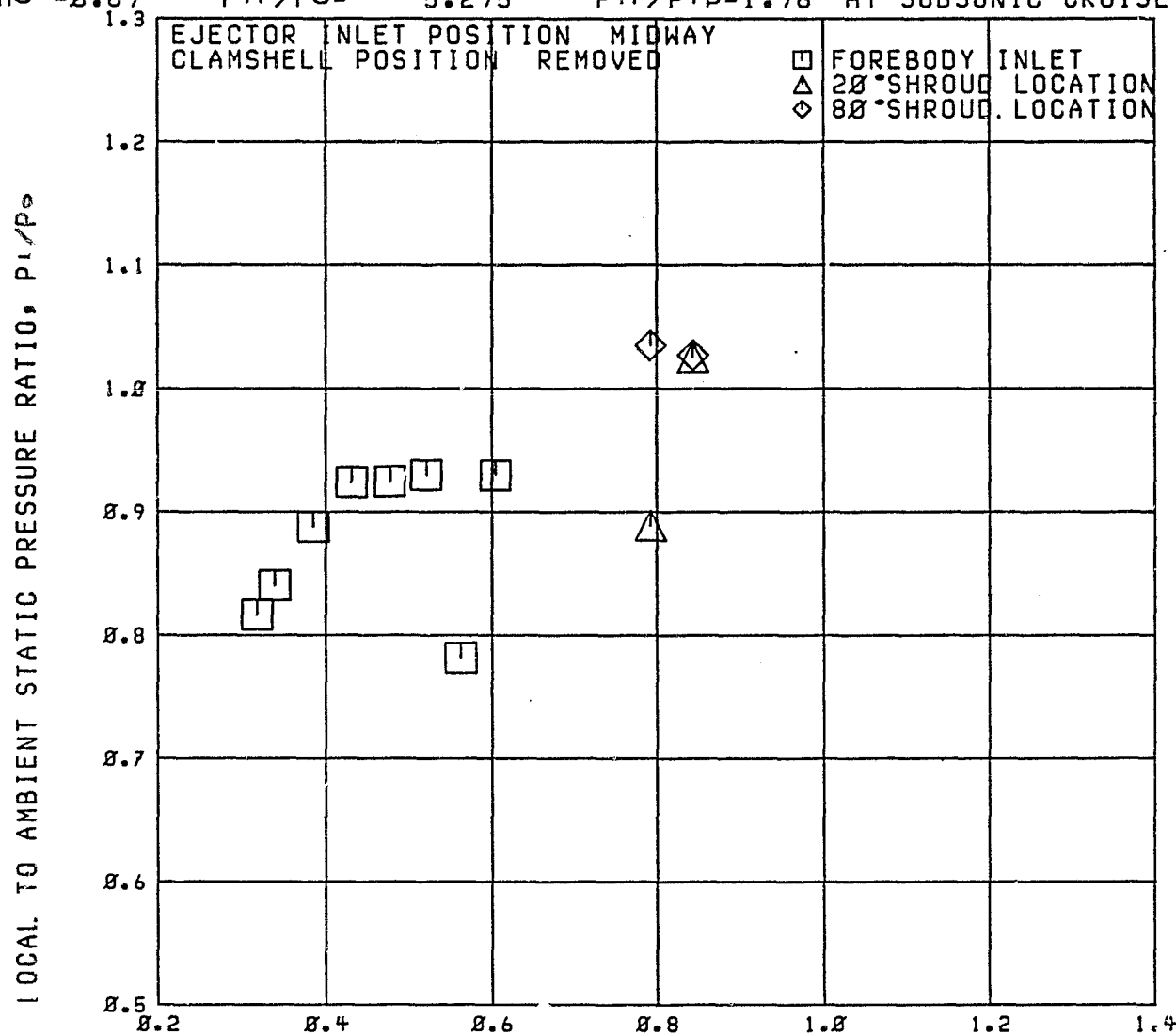
Run 38

RDG=2014

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 5.295$   $P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE



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Run 38

A2

RDG=2015

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

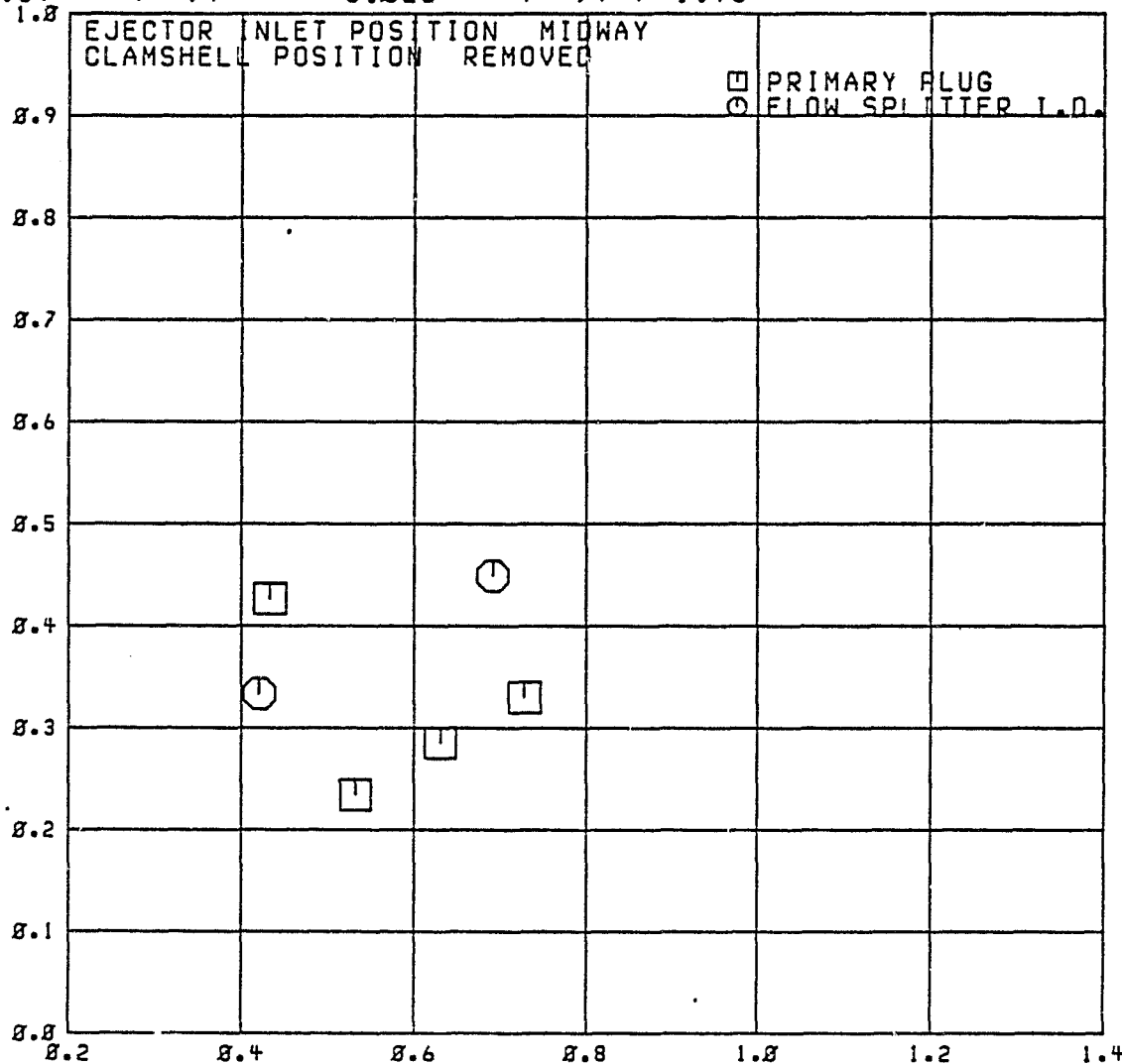
$M_0 = 0.89$

$P_{tr}/P_0 = 6.025$

$P_{tr}/P_{tp} = 1.96$

1.0

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

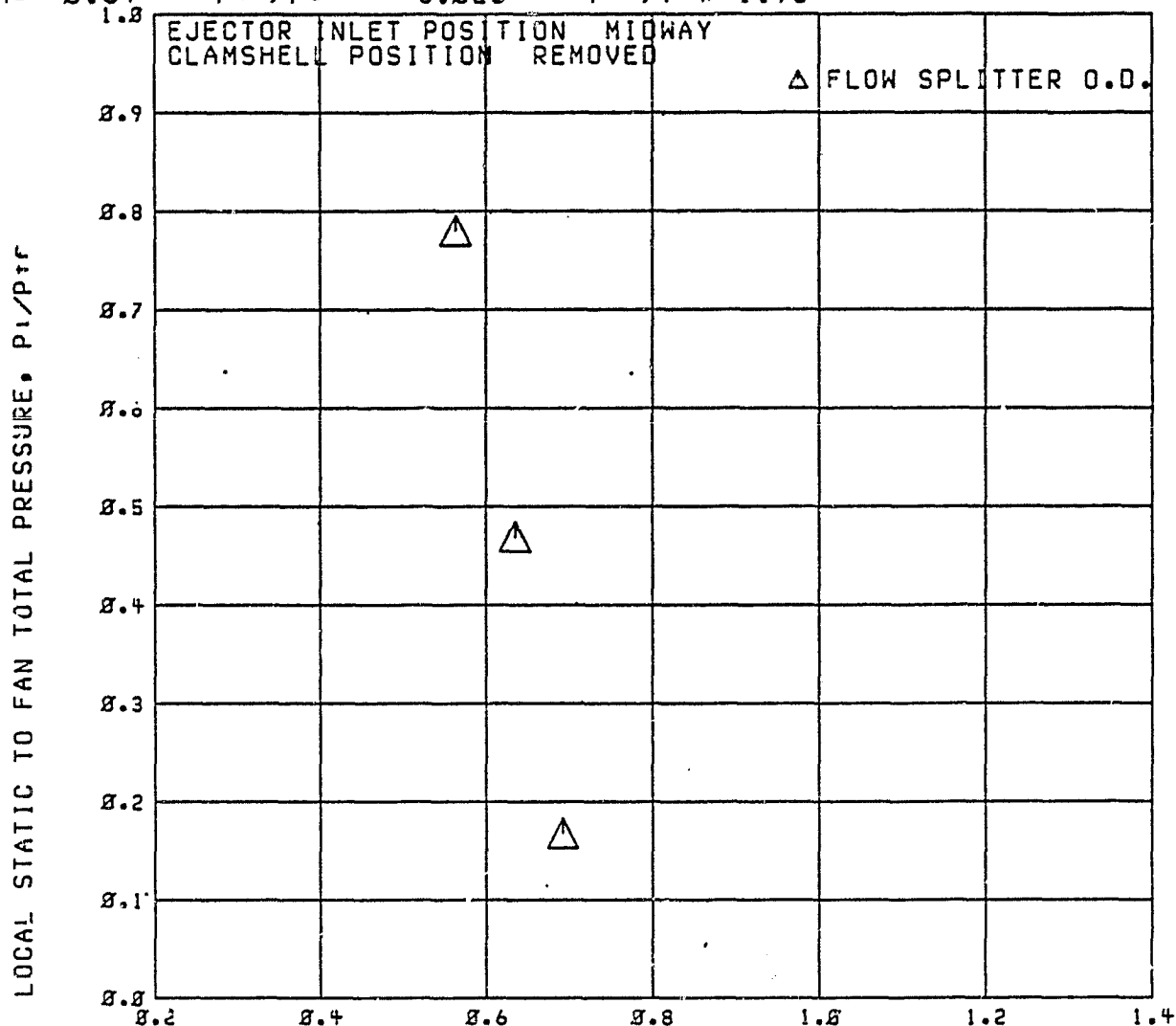
Run 38

A2

RDG=2815

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$   $P_{tr}/P_0 = 6.025$   $P_{tr}/P_{tr} = 1.96$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

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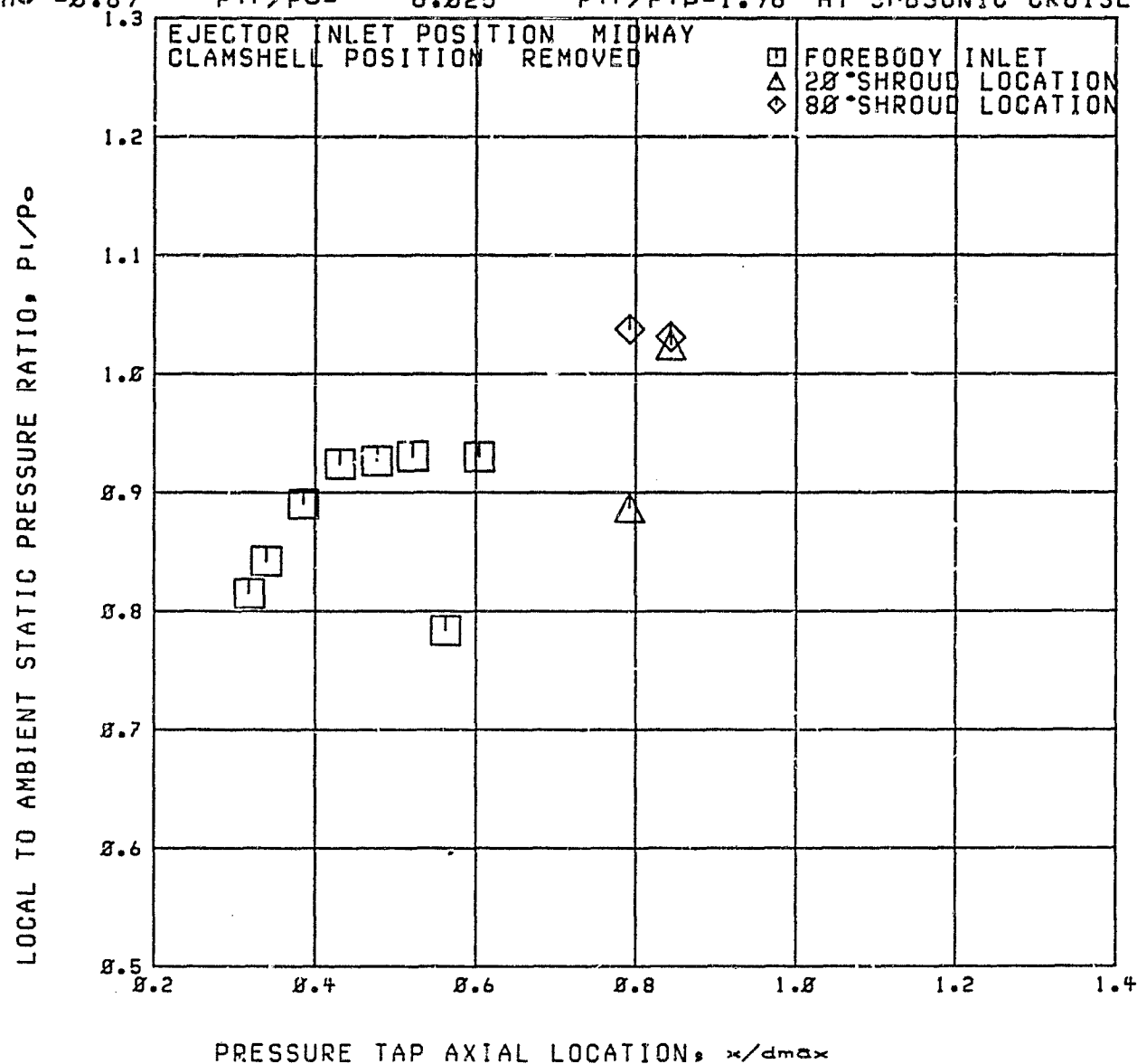
Run 38

RDG=2015

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.89$   $P_{tr}/P_0 = 6.025$   $P_{tr}/P_{tp} = 1.96$  AT SUBSONIC CRUISE



RUN 38

A2

RDC=2016

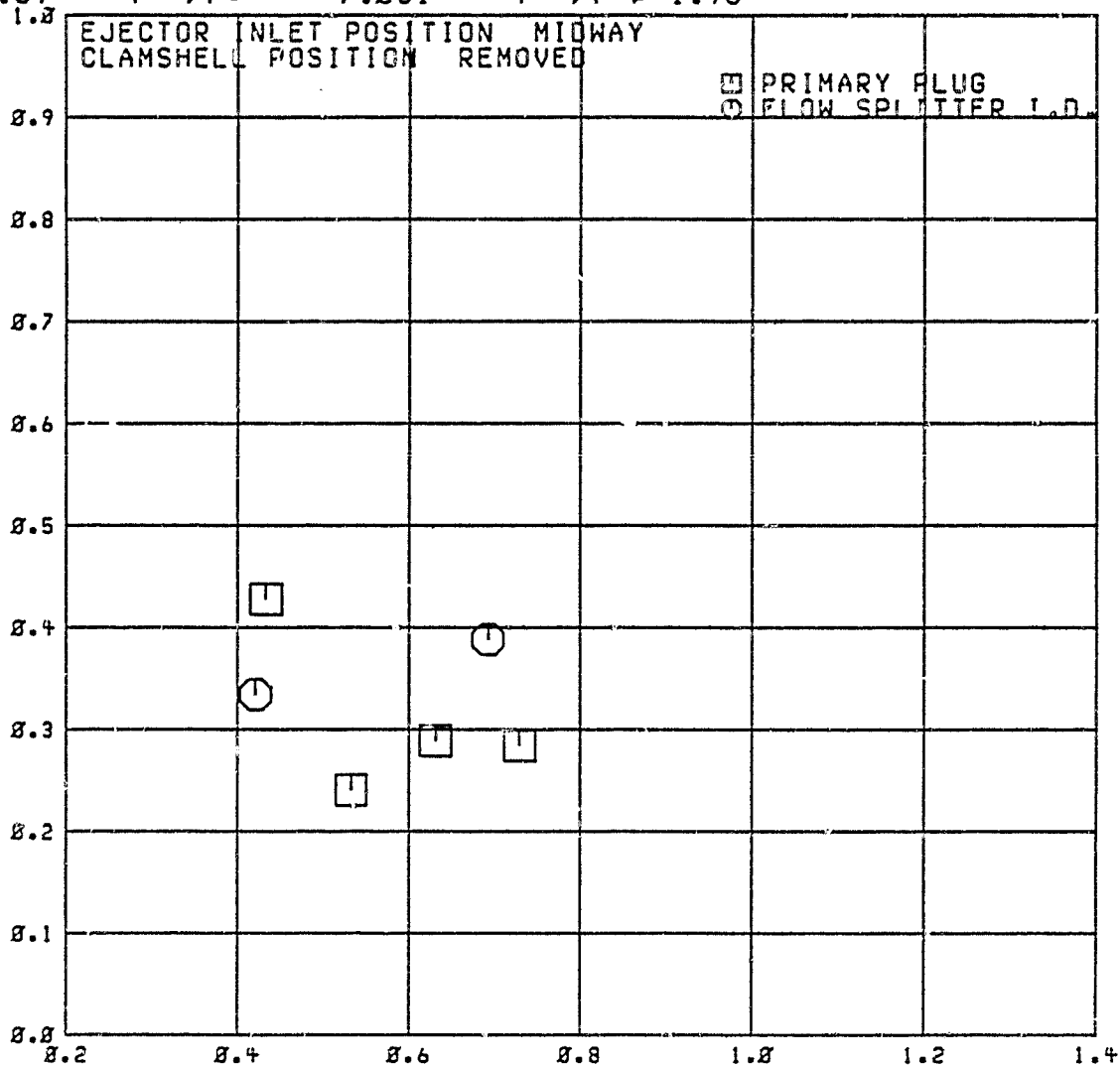
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 = 7.051$

$P_{tr}/P_{trp} = 1.98$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{trp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

Rev 38

A2

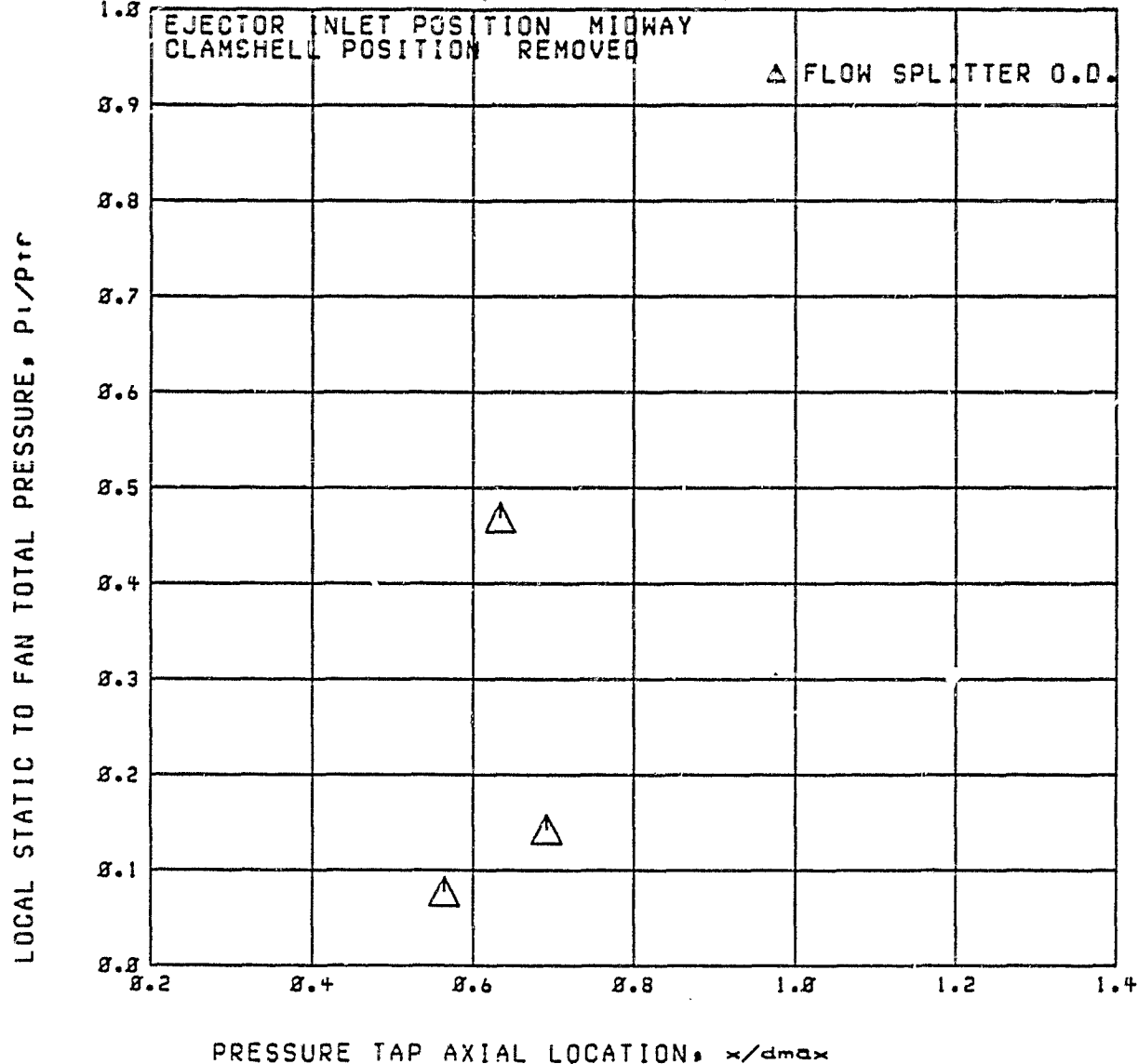
RDG=2016

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$

$P_{tr}/P_o = 7.051$

$P_{tr}/P_{tp} = 1.98$



RUN 38

A2

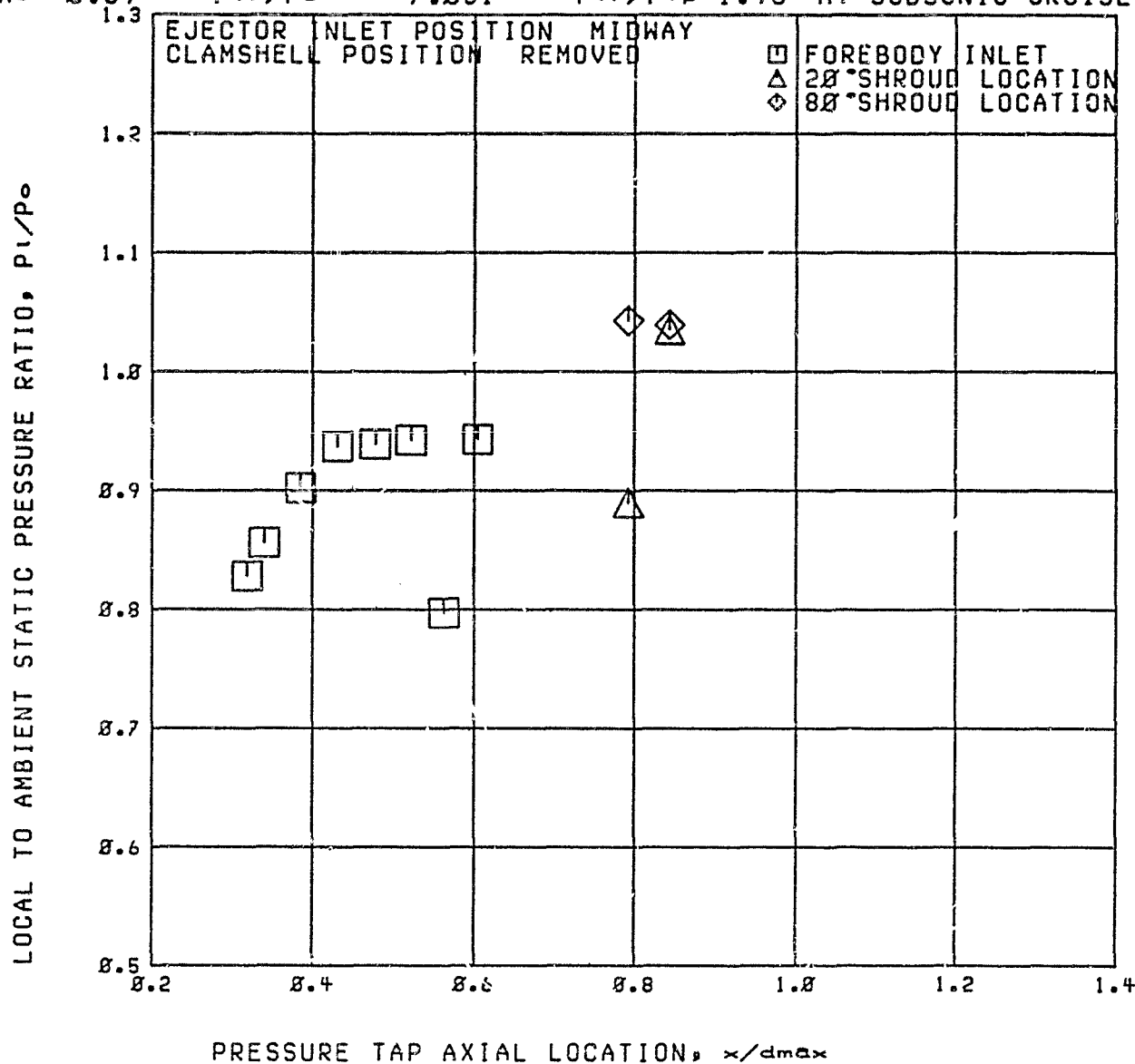
RDG=2816

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$

$P_{tr}/P_o = 7.051$

$P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE



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RUN 38

A2

RDG=2843

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

No. 1013

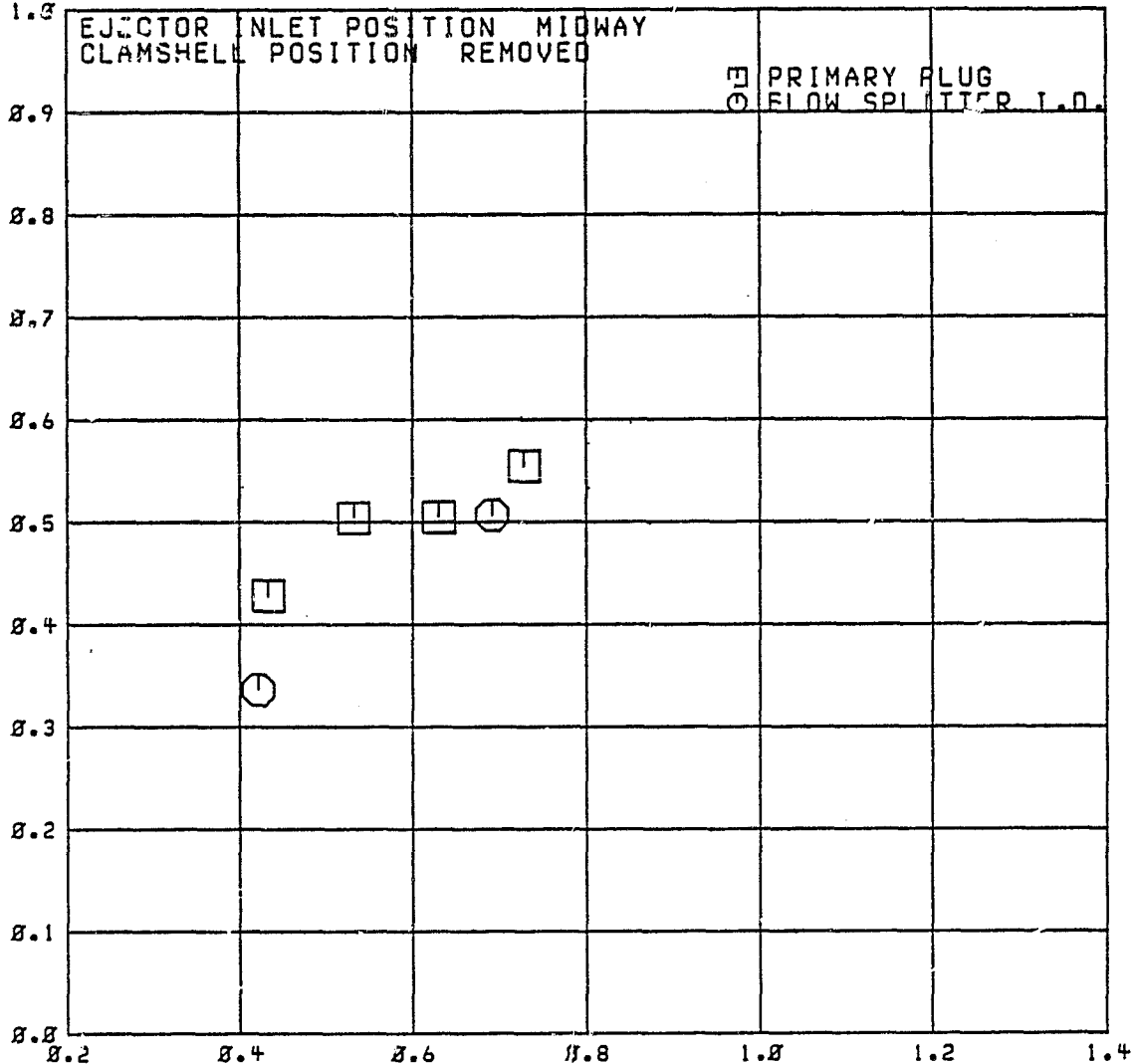
$P_{tr}/P_o =$

3.532

$P_{tr}/P_{tp} =$

1.97

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

Run 38

A2

RDG=2843

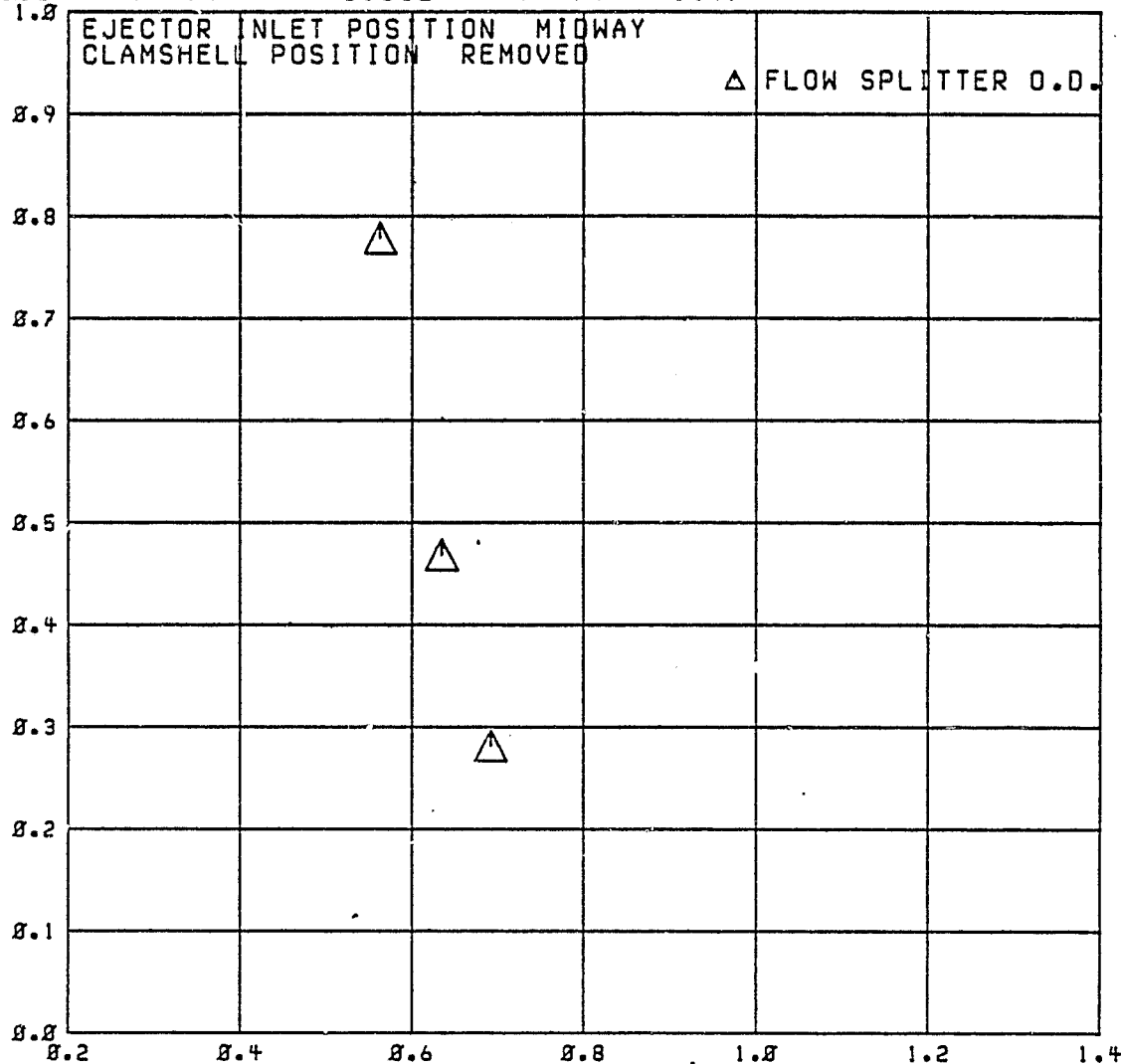
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.03$

$P_{tr}/P_0 = 3.532$

$P_{tr}/P_{tp} = 1.97$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

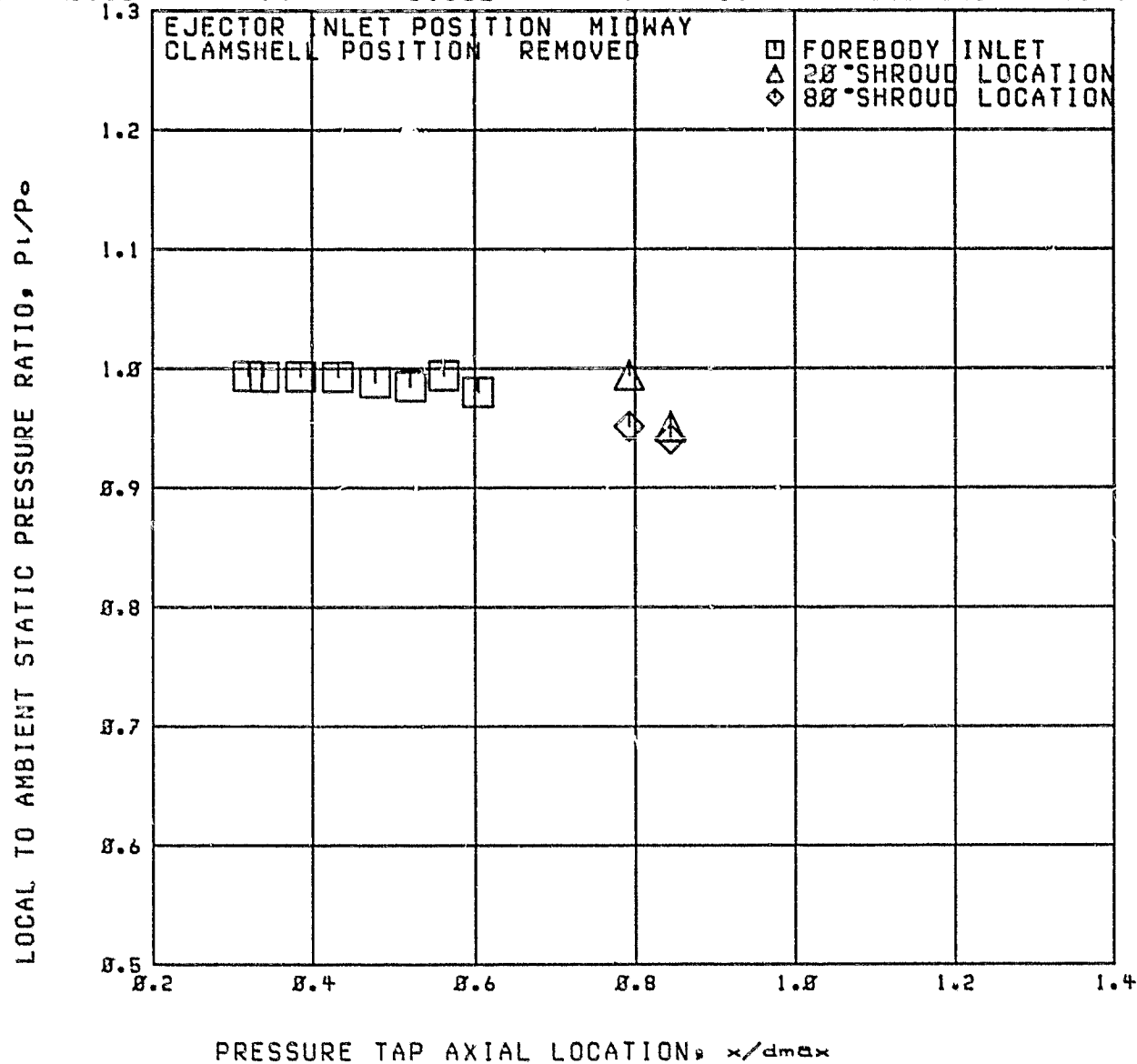
RUN 38

RDG=2843

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.83$   $P_{tr}/P_o = 3.532$   $P_{tr}/P_{tr} = 1.97$  AT SUBSONIC CRUISE



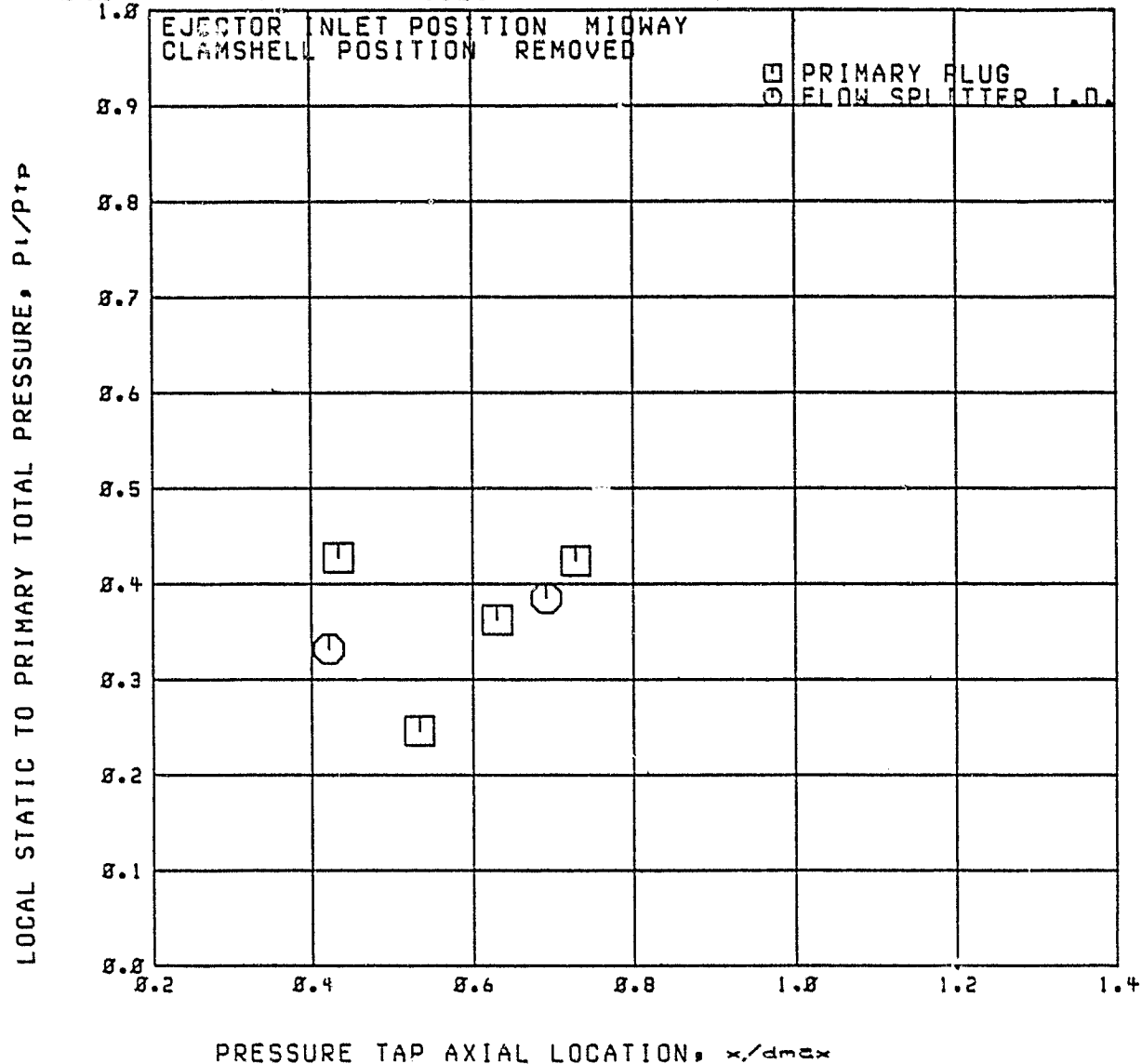
Run 38

A2

RDG=2044

# PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.84$   $P_{tr}/P_0 = 4.528$   $P_{tr}/P_{tp} = 1.94$



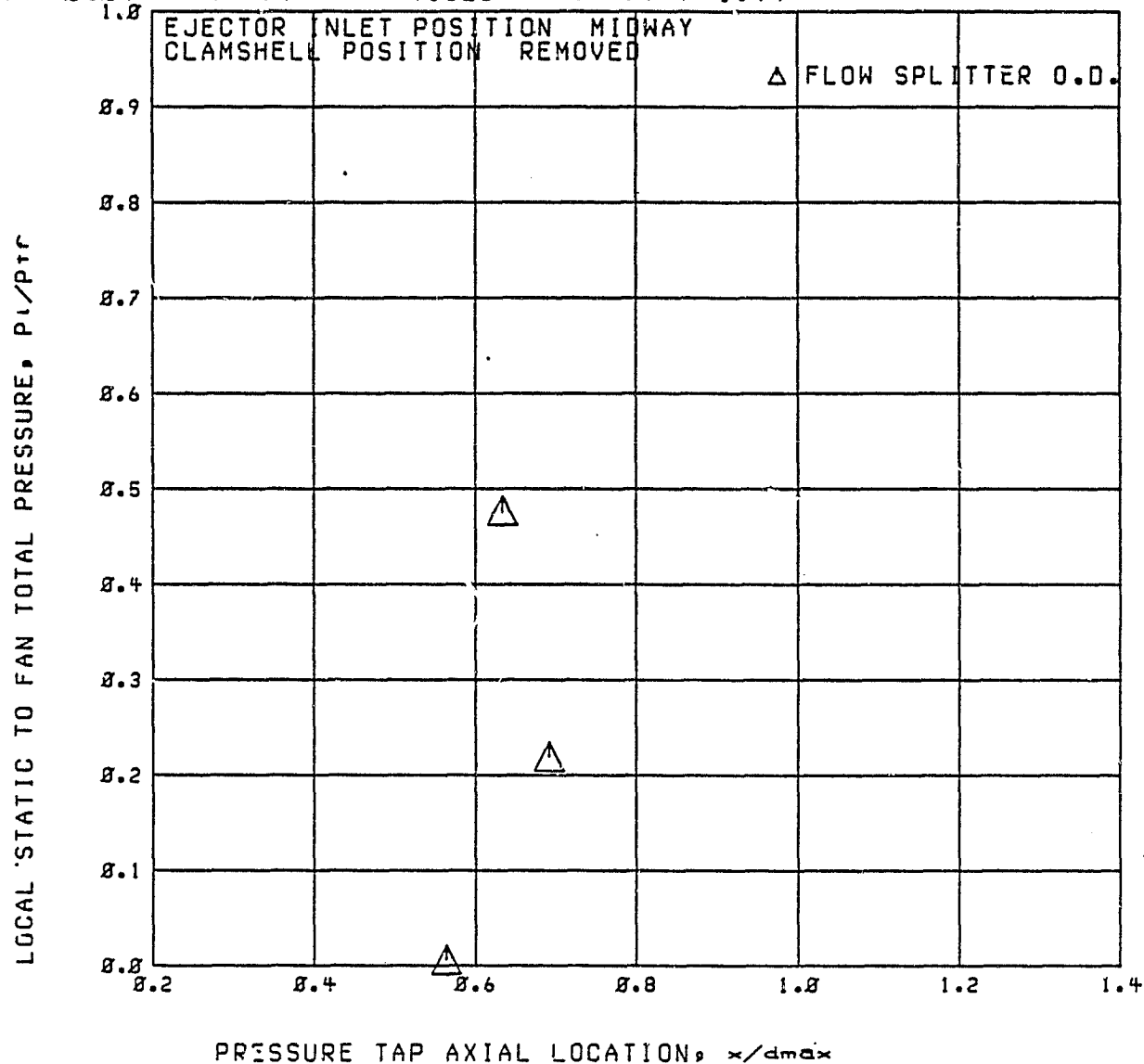
Run 38

A2

RDG=2844

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.81$   $P_{tr}/P_{02} = 4.528$   $P_{tr}/P_{tr} = 1.94$



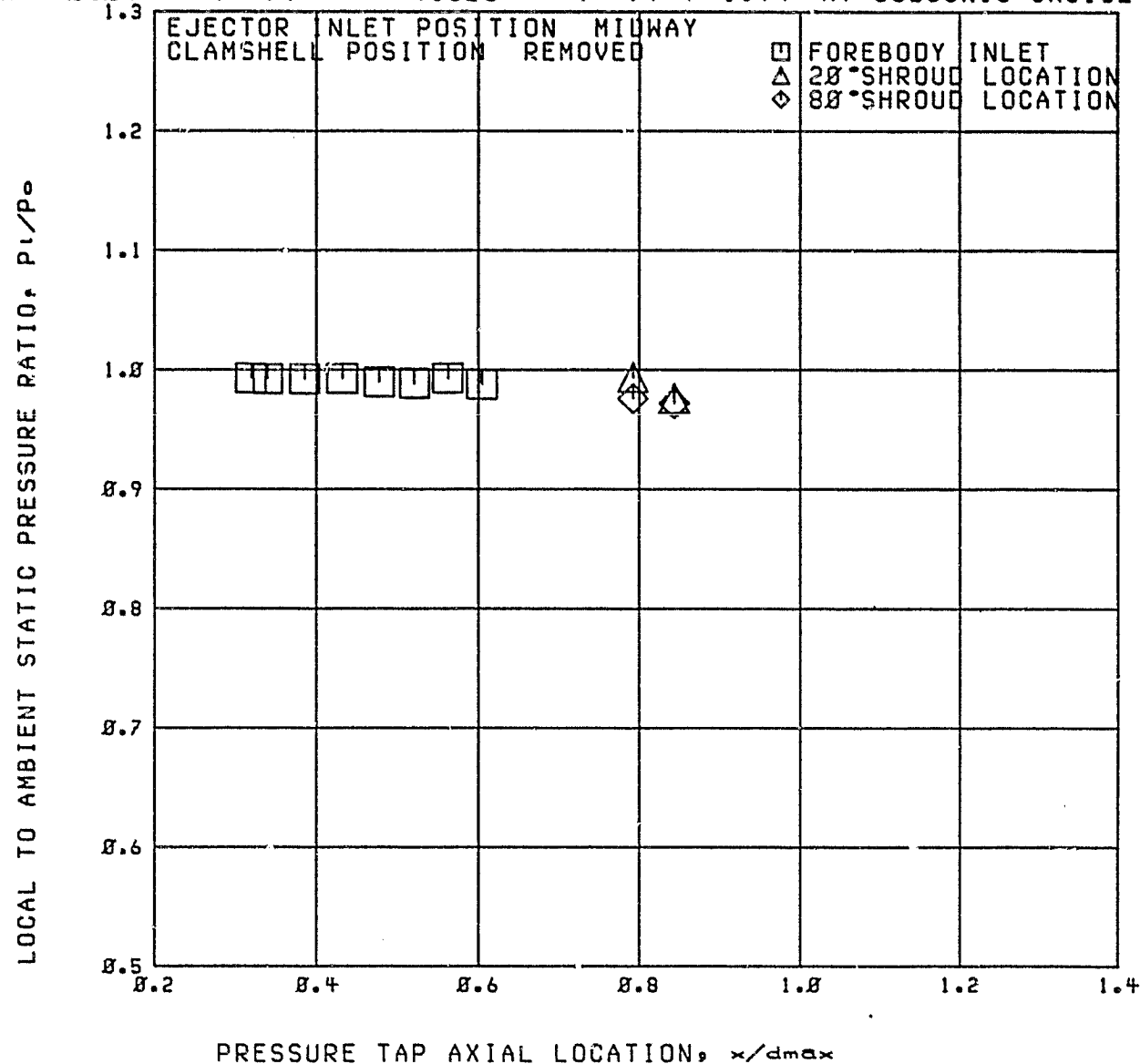
Run 38

RDG=2044

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.04$   $P_{tr}/P_o = 4.528$   $P_{tr}/P_{tp} = 1.94$  AT SUBSONIC CRUISE



Run 38

A2

RDG=2045

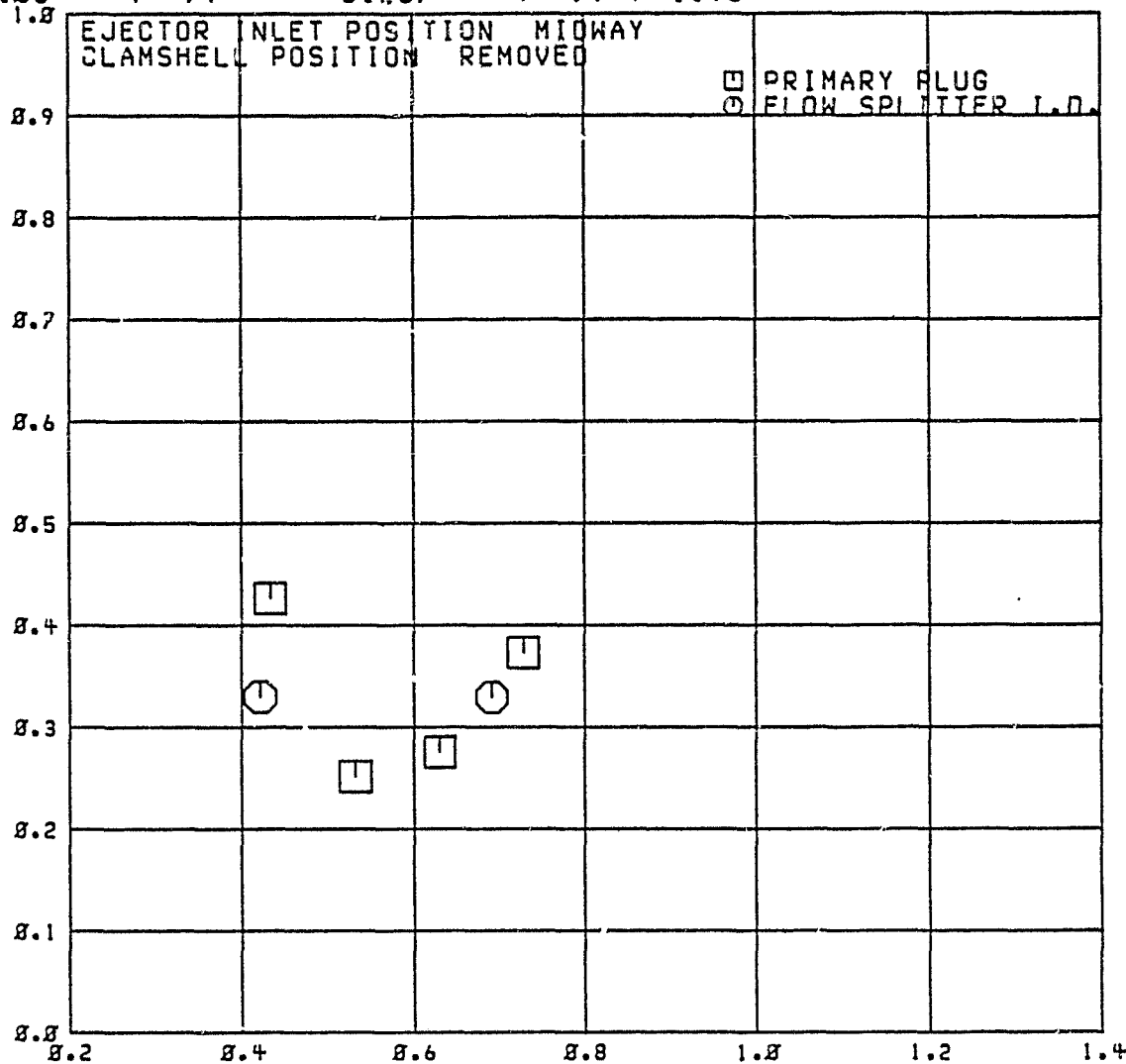
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.85$

$P_{tr}/P_o = 5.287$

$P_{tr}/P_{tp} = 1.93$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_1/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 38

A2

RDG=2045

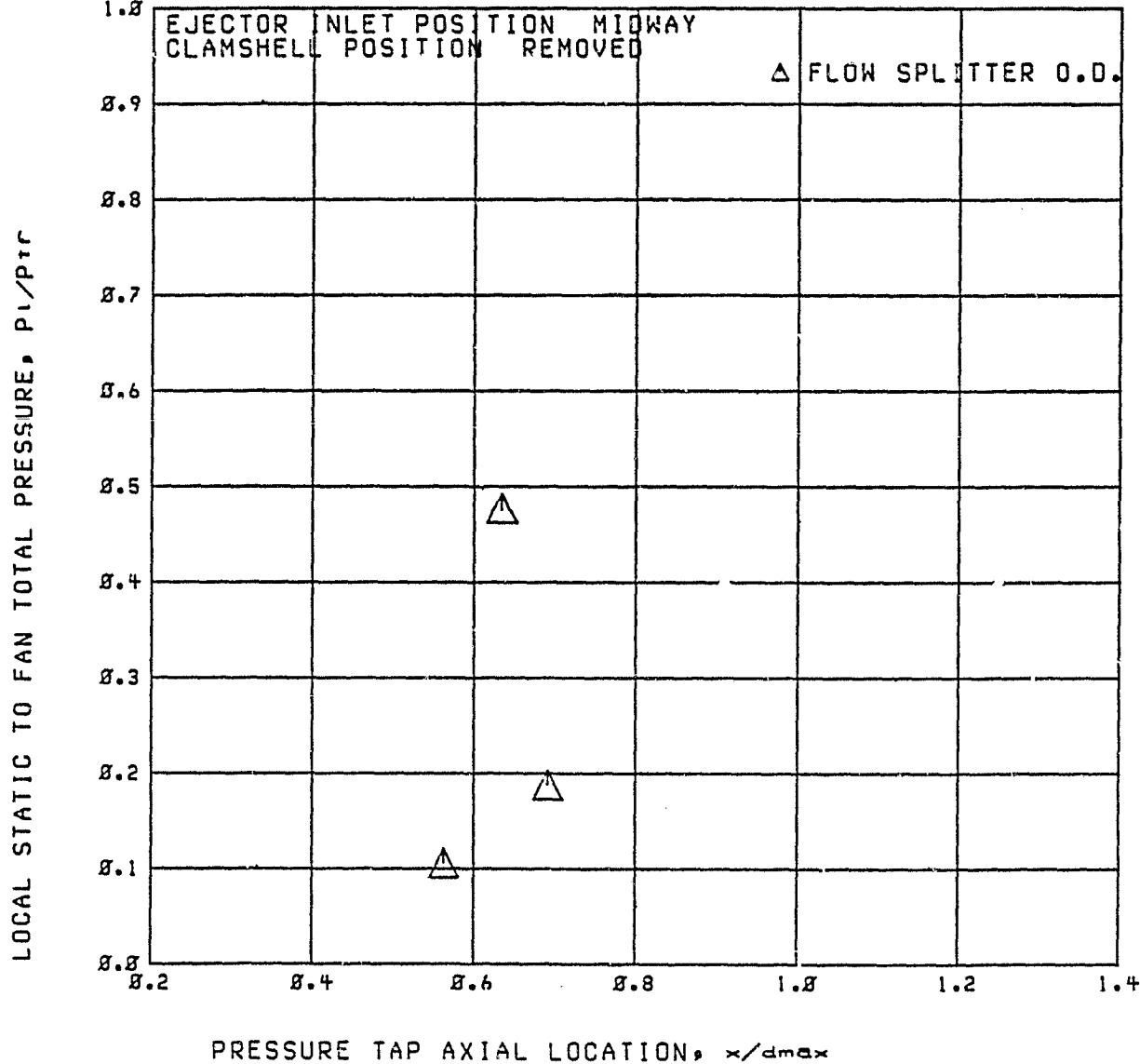
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.05$

$P_{tr}/P_0 =$

5.287

$P_{tr}/P_{tp} = 1.93$





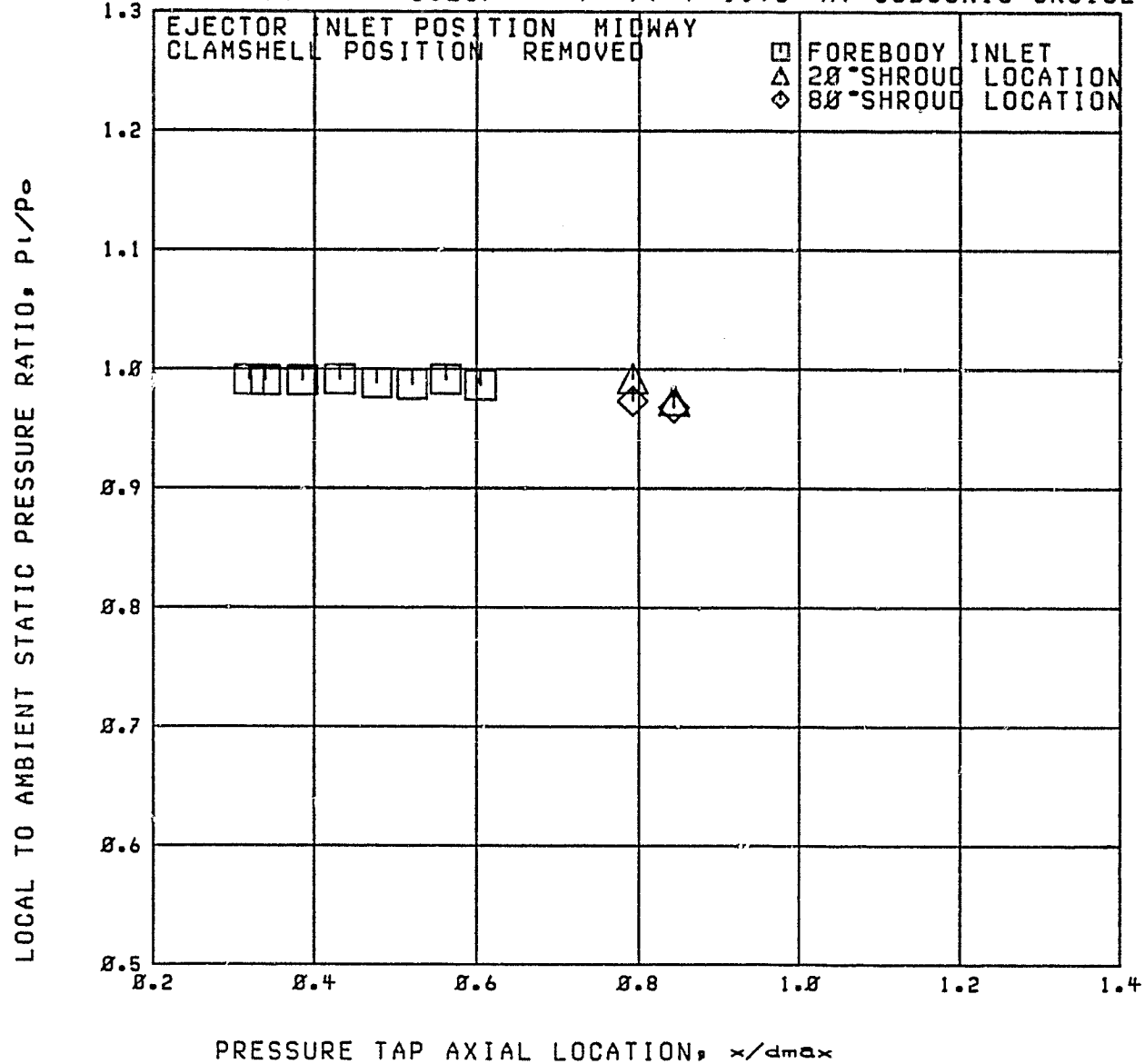
RUN 33

RDG=2045

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.05$   $P_{tr}/P_o = 5.287$   $P_{tr}/P_{tp} = 1.93$  AT SUBSONIC CRUISE



Run 38

A2

RDG=2846

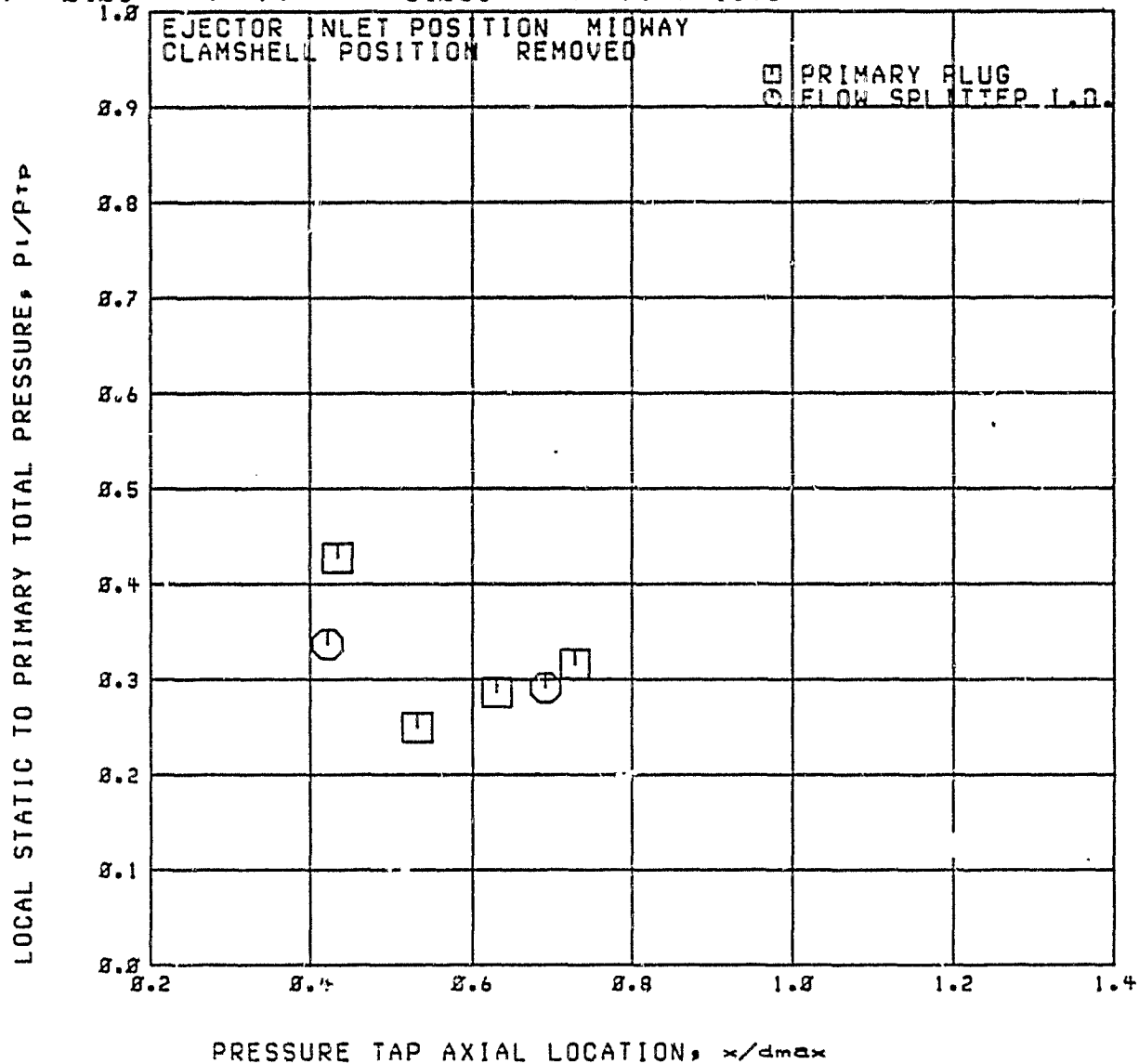
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.85$

$P_{tr}/P_0 =$

6.836

$P_{tr}/P_{tp} = 1.95$



RUN 38

A2

RDG=2846

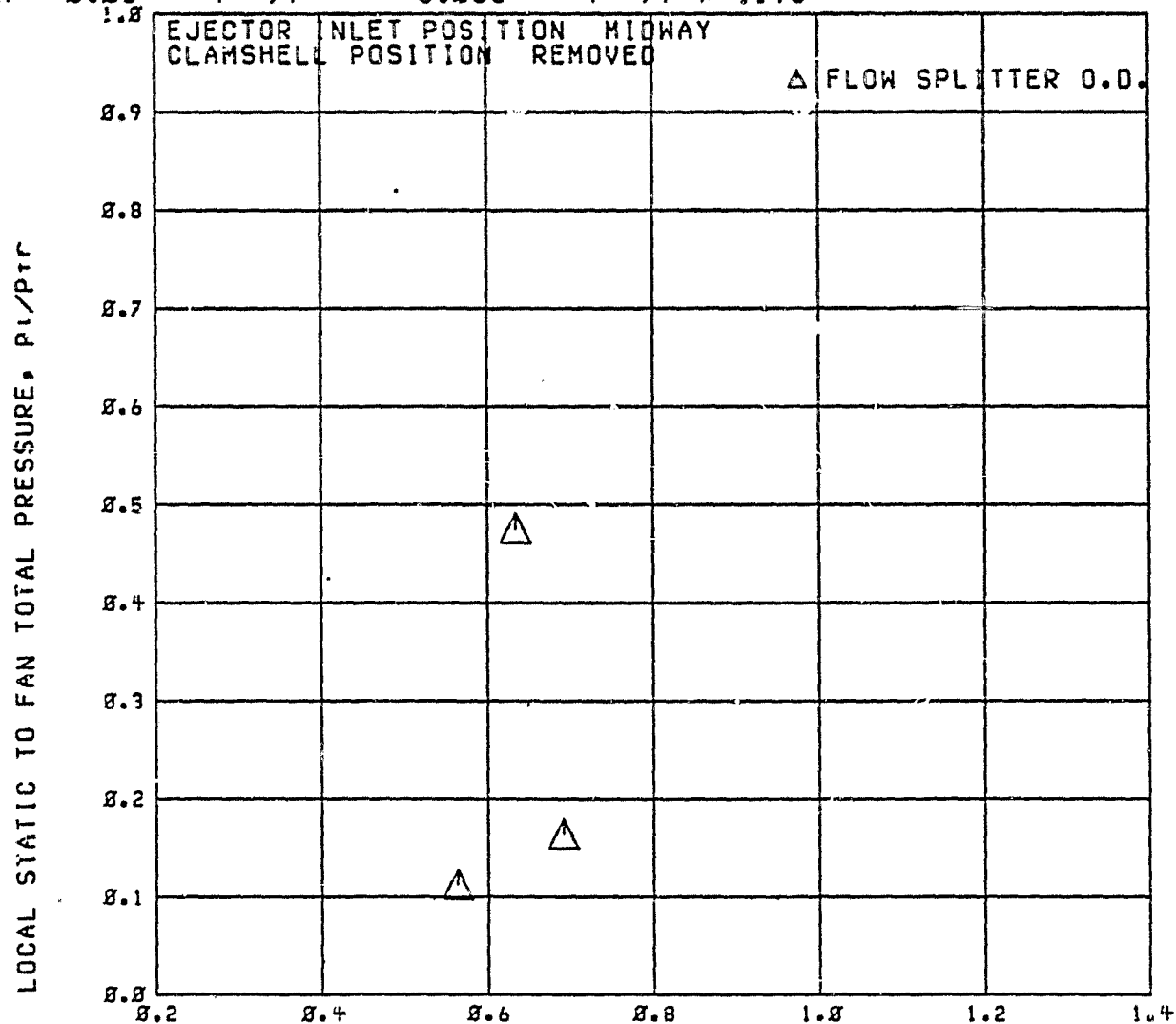
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.05$

$P_{tr}/P_0 =$

6.836

$P_{tr}/P_{tp} = 1.95$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

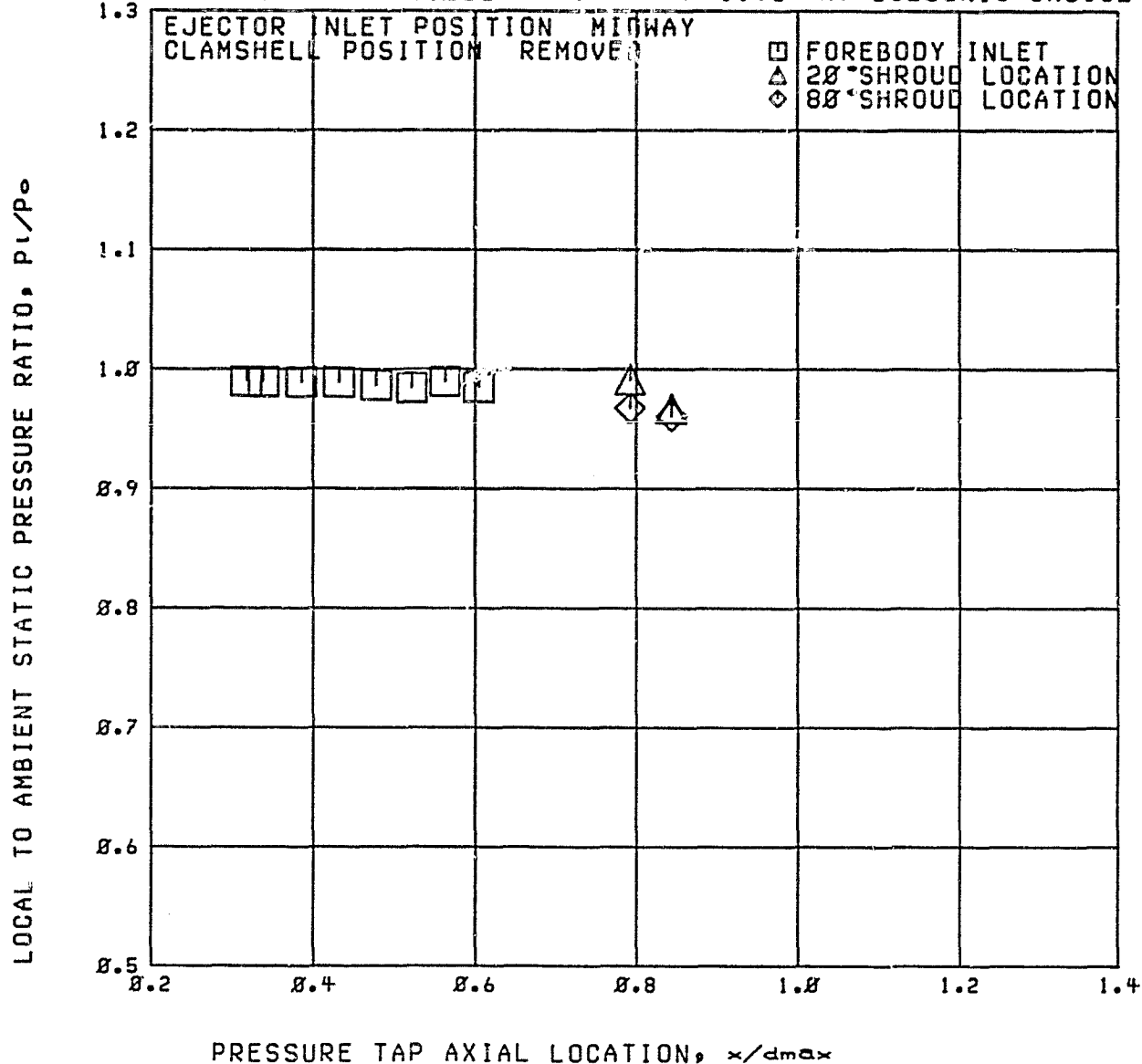
Run 38

RDG=2046

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.05$   $P_{tr}/P_o = 6.036$   $P_{tr}/P_{tp} = 1.95$  AT SUBSONIC CRUISE



RDG. 2059-2090

A2

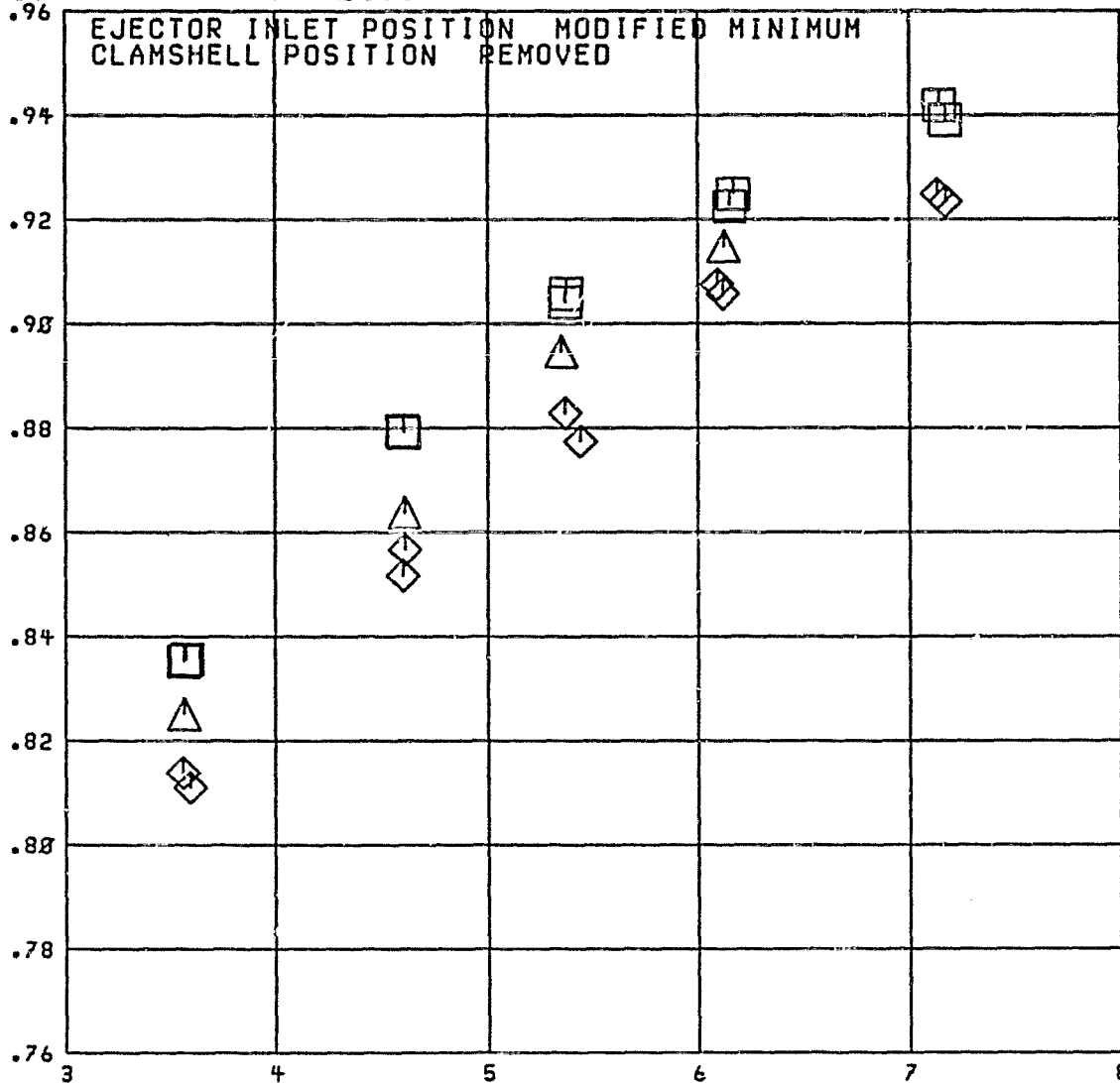
SUBSONIC CRUISE

RUN 39

$M_0 = 0.98$

$P_{tr}/P_{tp} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$

NOZZLE GROSS THRUST COEFFICIENT,  $CFPI$



FA. NOZZLE PRESSURE RATIO,  $PTF/PO$

RDG 2059-2090

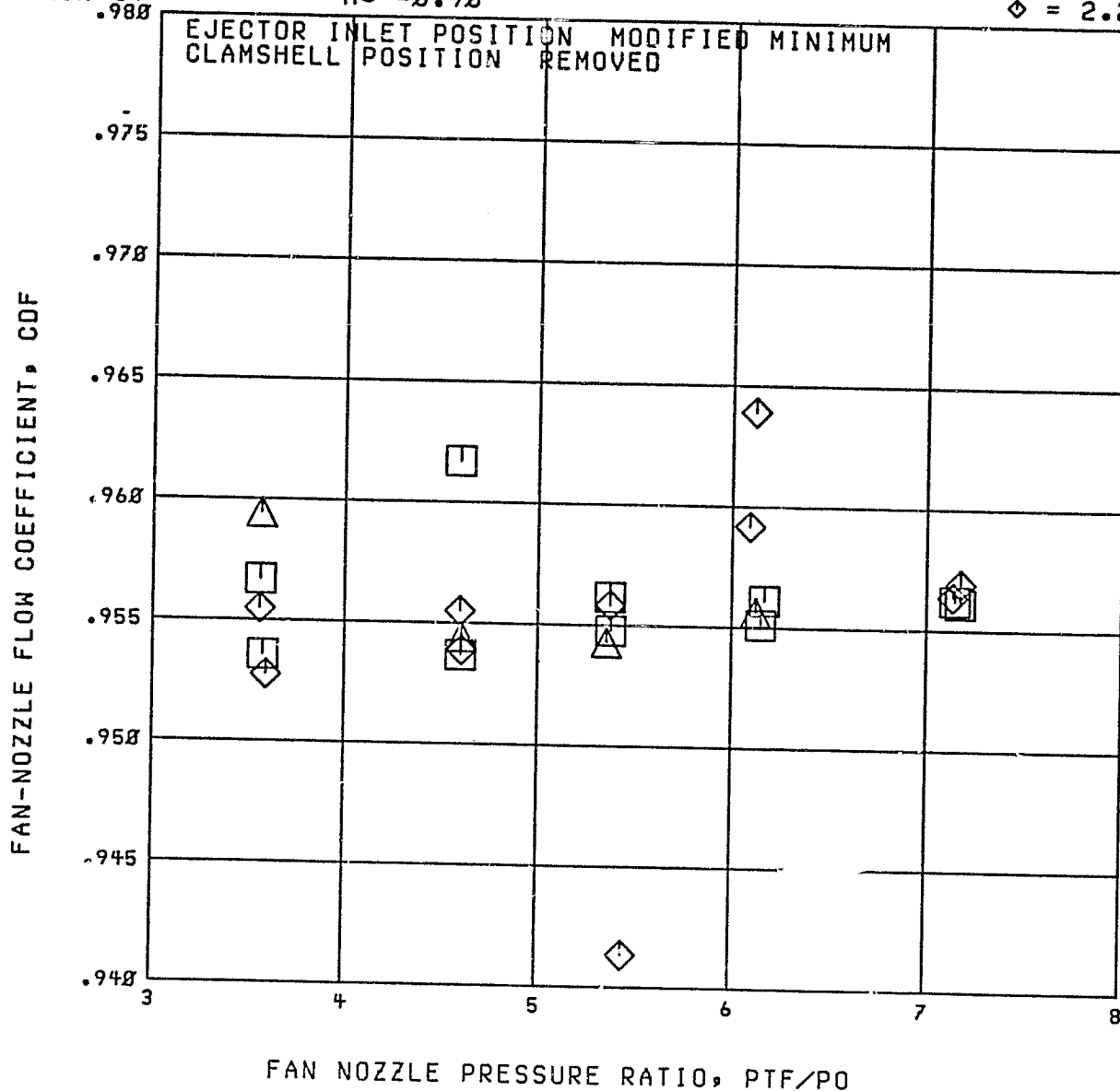
A2

SUBSONIC CRUISE

RUN 39  
.988

$M_\infty = 0.98$

$P_{tr}/P_{tp} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$



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R06 2059-2090

A2

SUBSONIC CRUISE

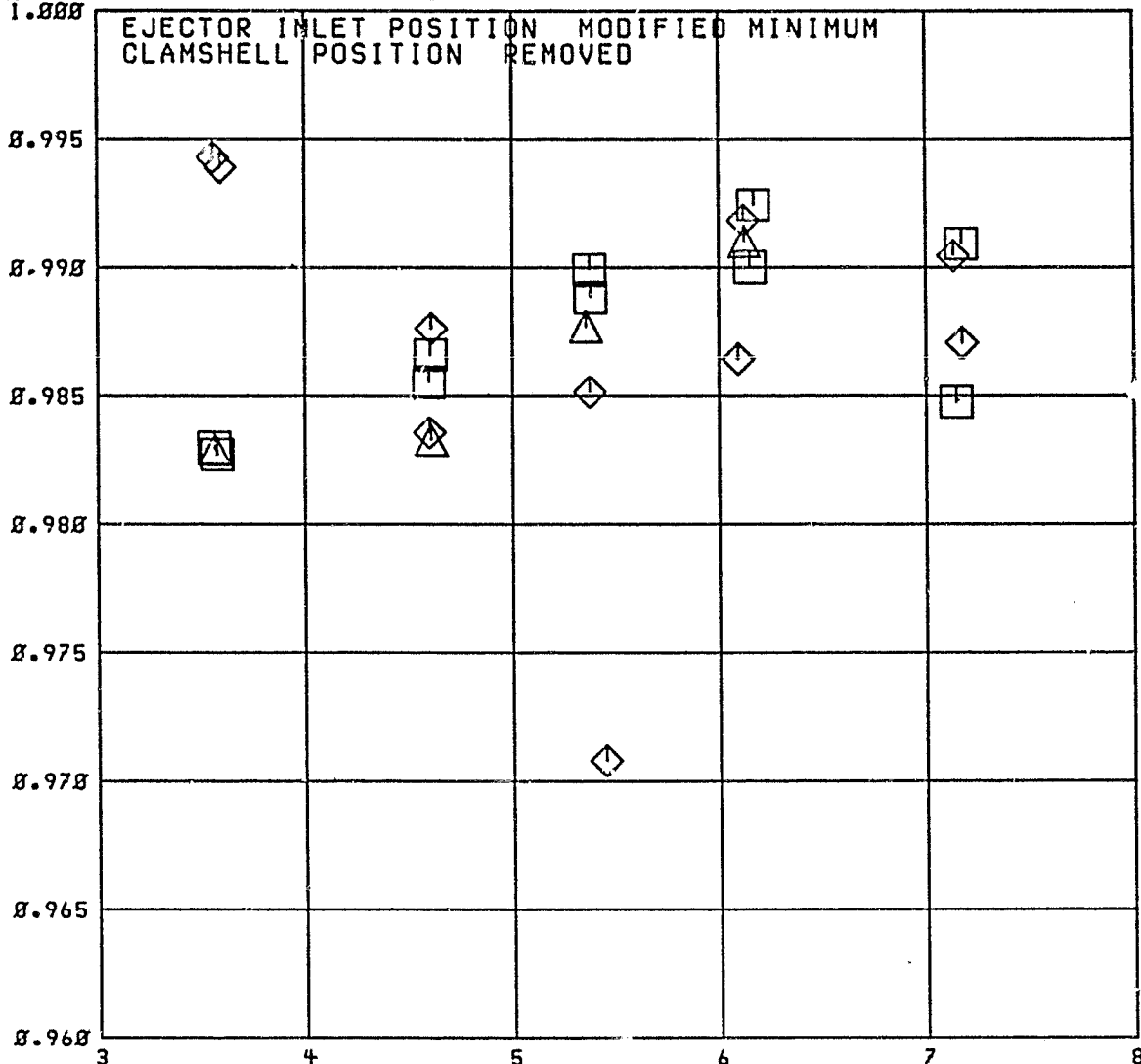
RUN 39

1.888

$M_\infty = 0.90$

$P_{t1}/P_{t2} = \square = 1.8$   
 $\triangle = 1.97$   
 $\diamond = 2.2$

PRIMARY-NOZZLE FLOW COEFFICIENT, CDP



FAN NOZZLE PRESSURE RATIO,  $P_{t1}/P_0$

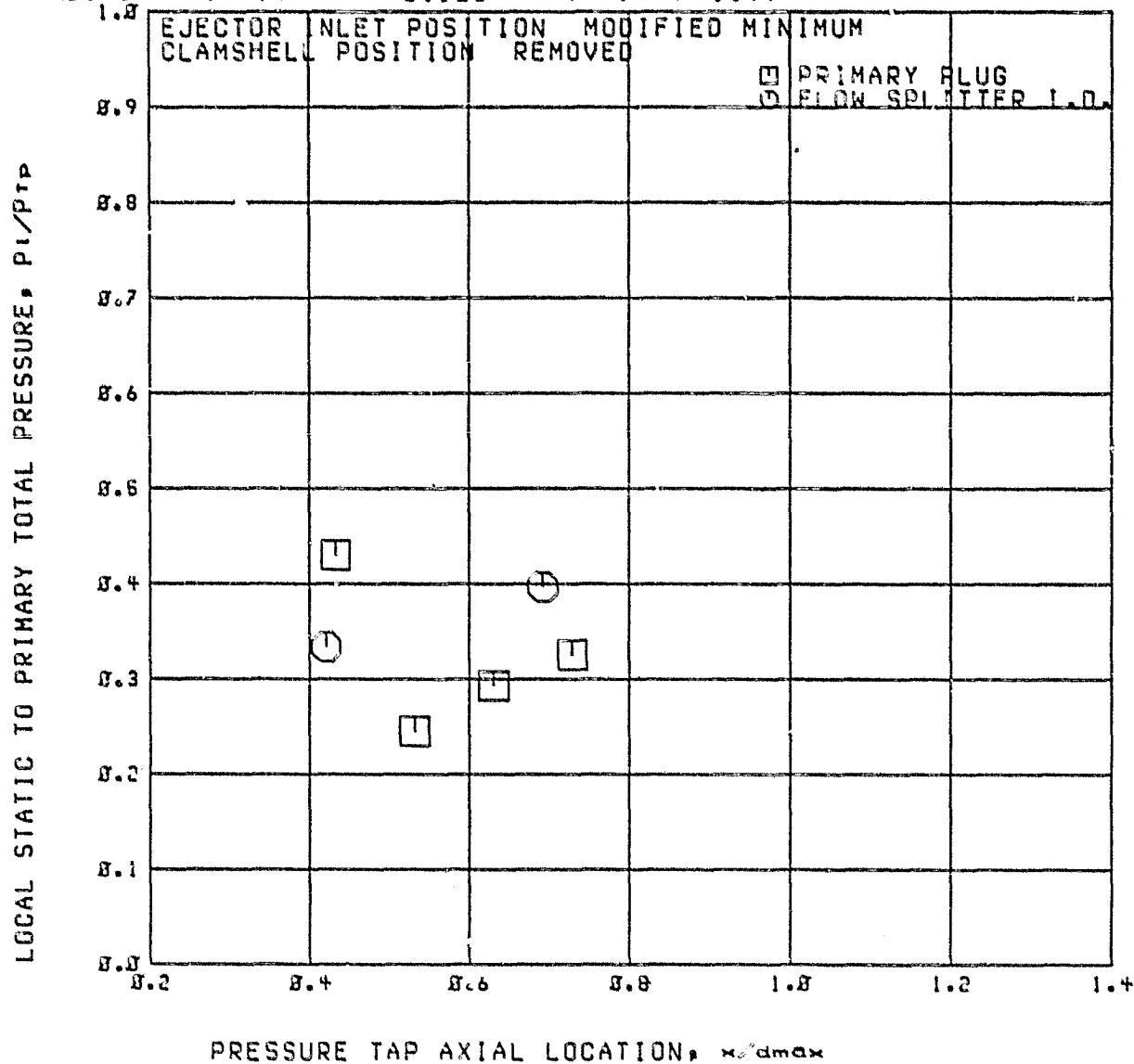
Run 39

A2

RDC=2867

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$   $P_{tr}/P_0 = 6.125$   $P_{tr}/P_{tr} = 1.99$





RUN 39

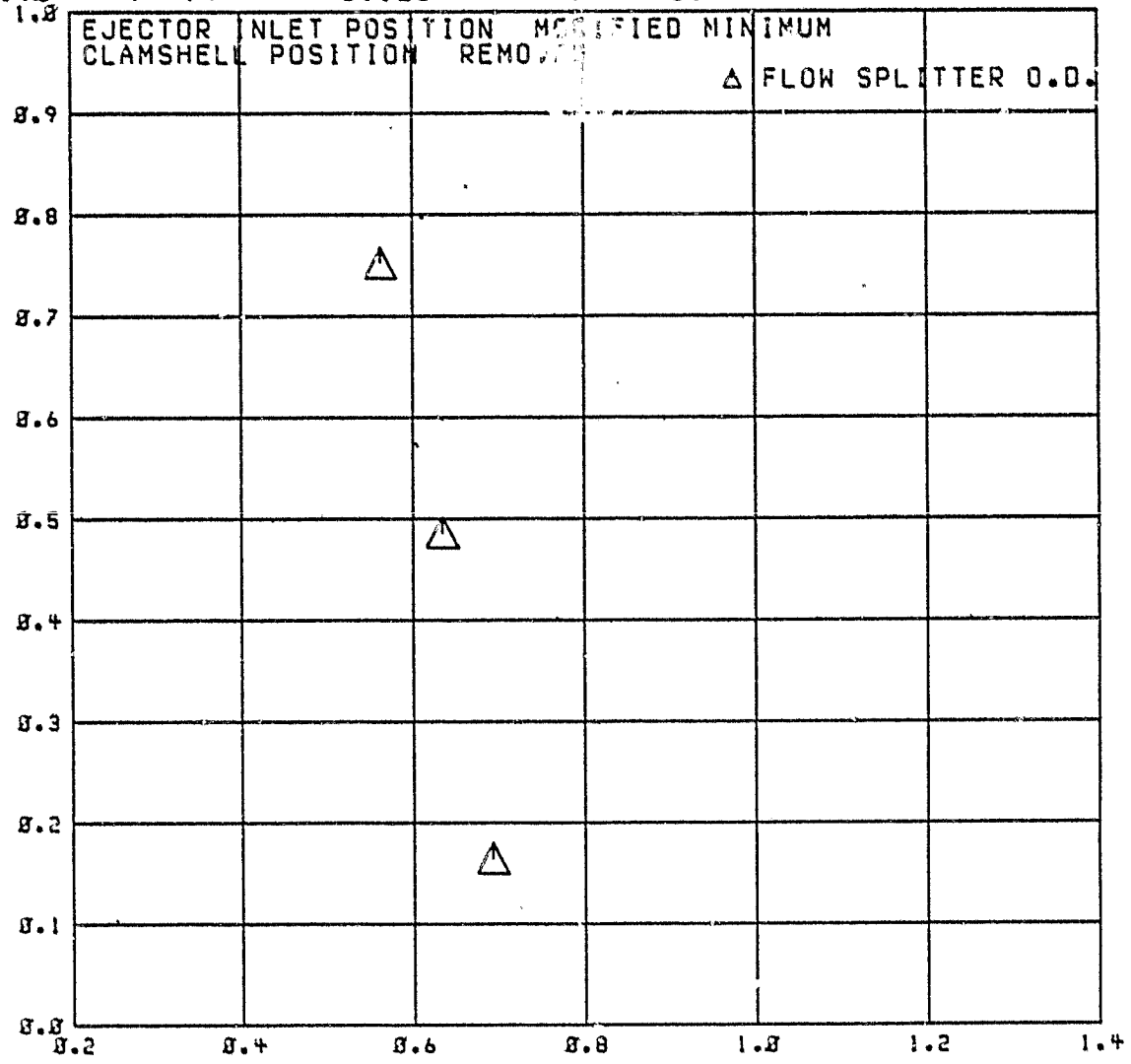
A2

RDG=2867

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.90$        $P_{tr}/P_0 = 6.125$        $P_{tr}/P_{tp} = 1.99$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

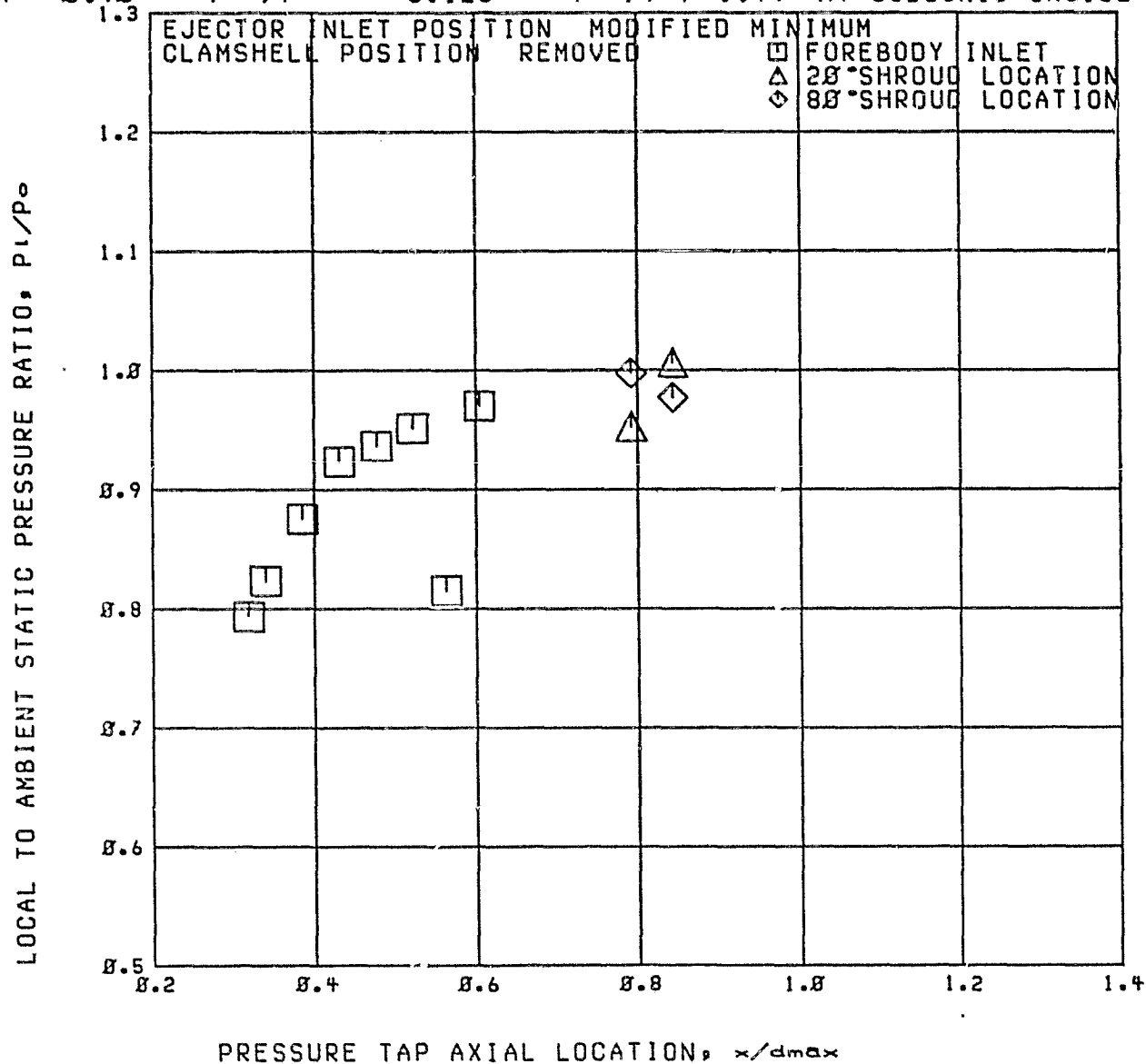
Run 39

RDG=2867

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.98$   $P_{tr}/P_o = 6.125$   $P_{tr}/P_{trp} = 1.99$  AT SUBSONIC CRUISE



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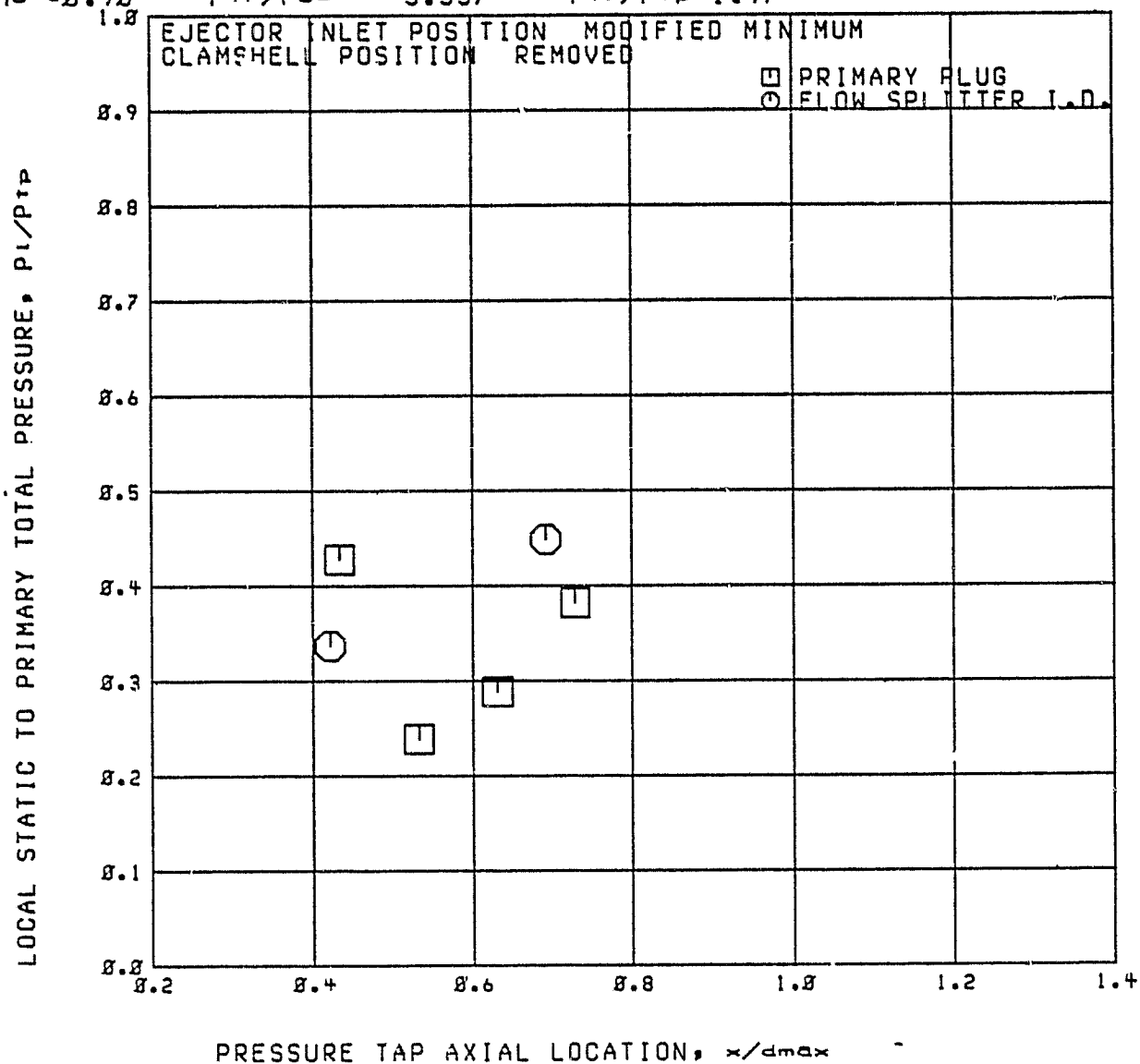
Run 39

A2

RDG=2868

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$   $P_{tr}/P_0 = 5.357$   $P_{tr}/P_{tp} = 1.97$



Run 39

A2

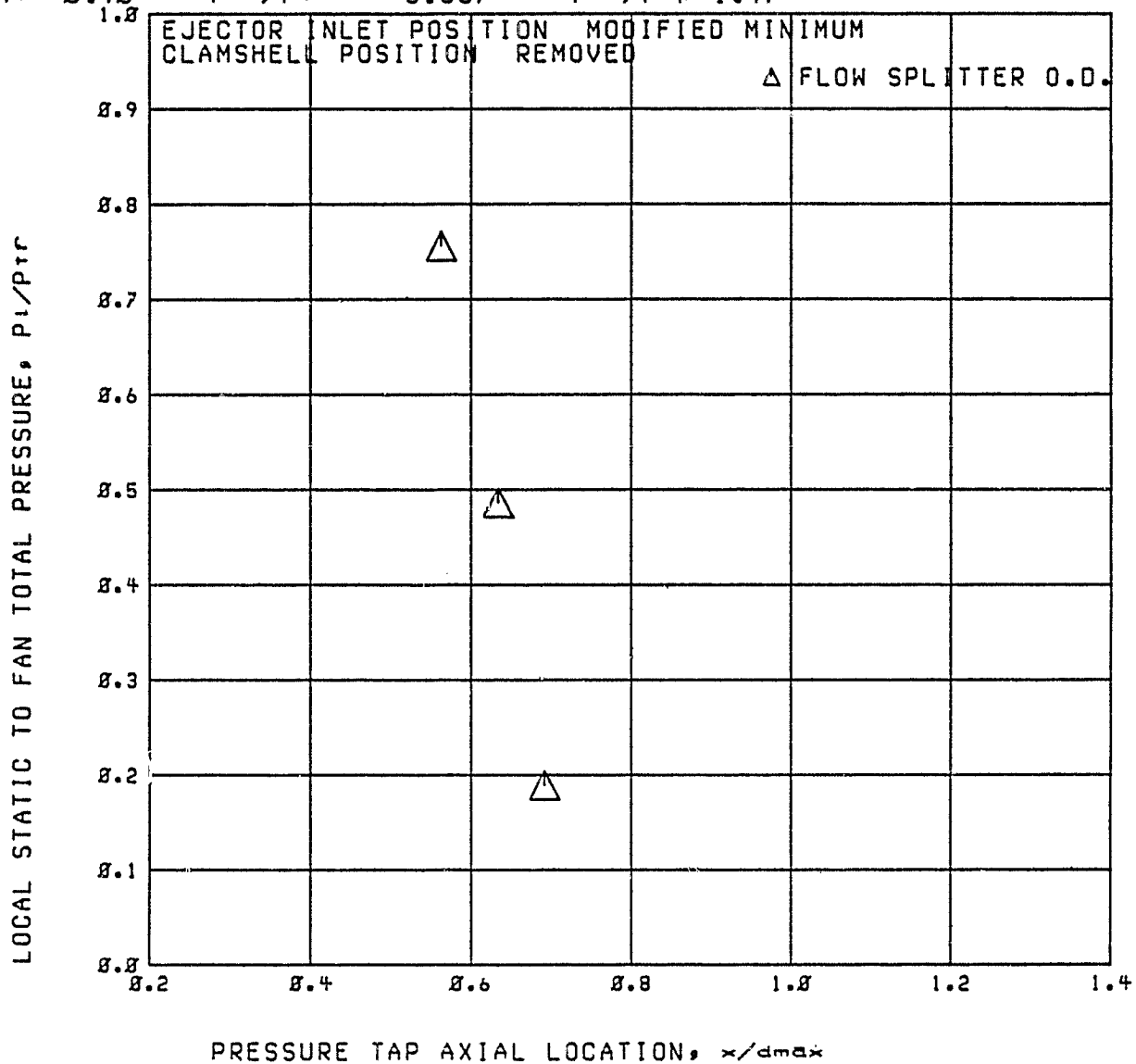
RDG=2068

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.90$

$P_{tr}/P_0 = 5.357$

$P_{tr}/P_{tp} = 1.97$



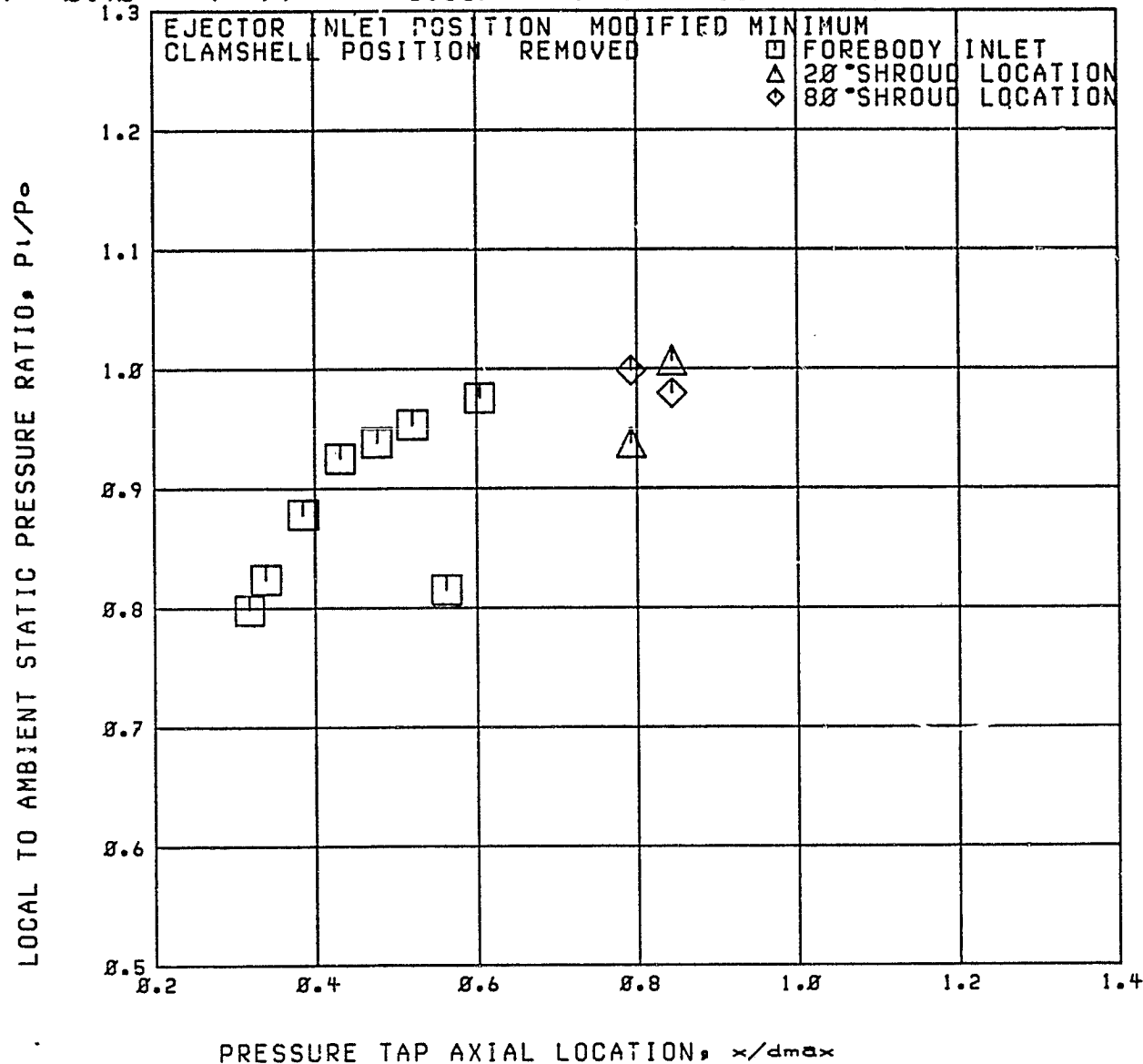
RUN 39

RDG=2068

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.90$   $P_{tr}/P_o = 0.5357$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



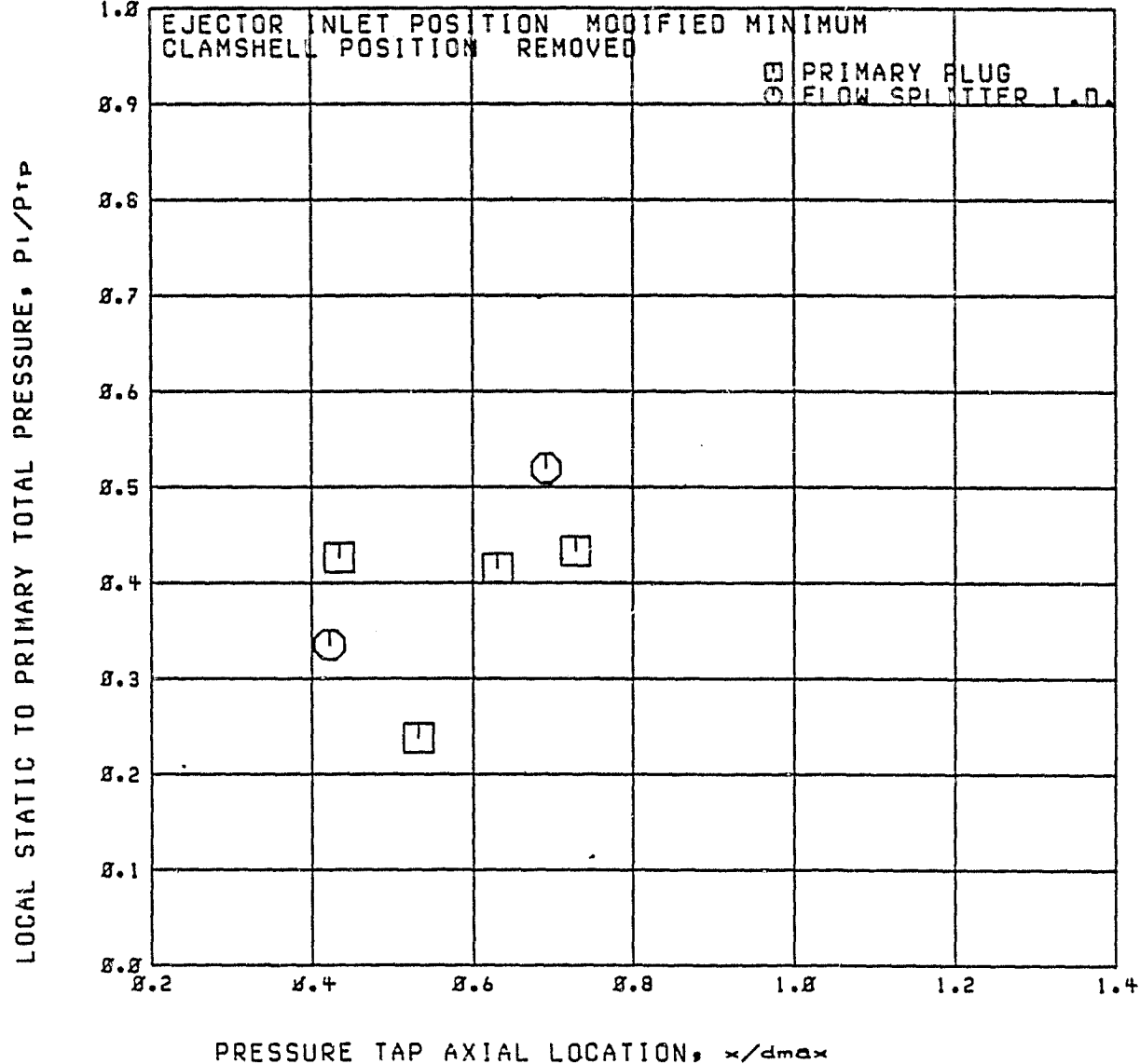
RUN 39

A2

RDG=2869

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.90$   $P_{t0}/P_{0\infty} = 4.689$   $P_{t0}/P_{tP} = 1.98$



RUN 39

A2

RDG=2869

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

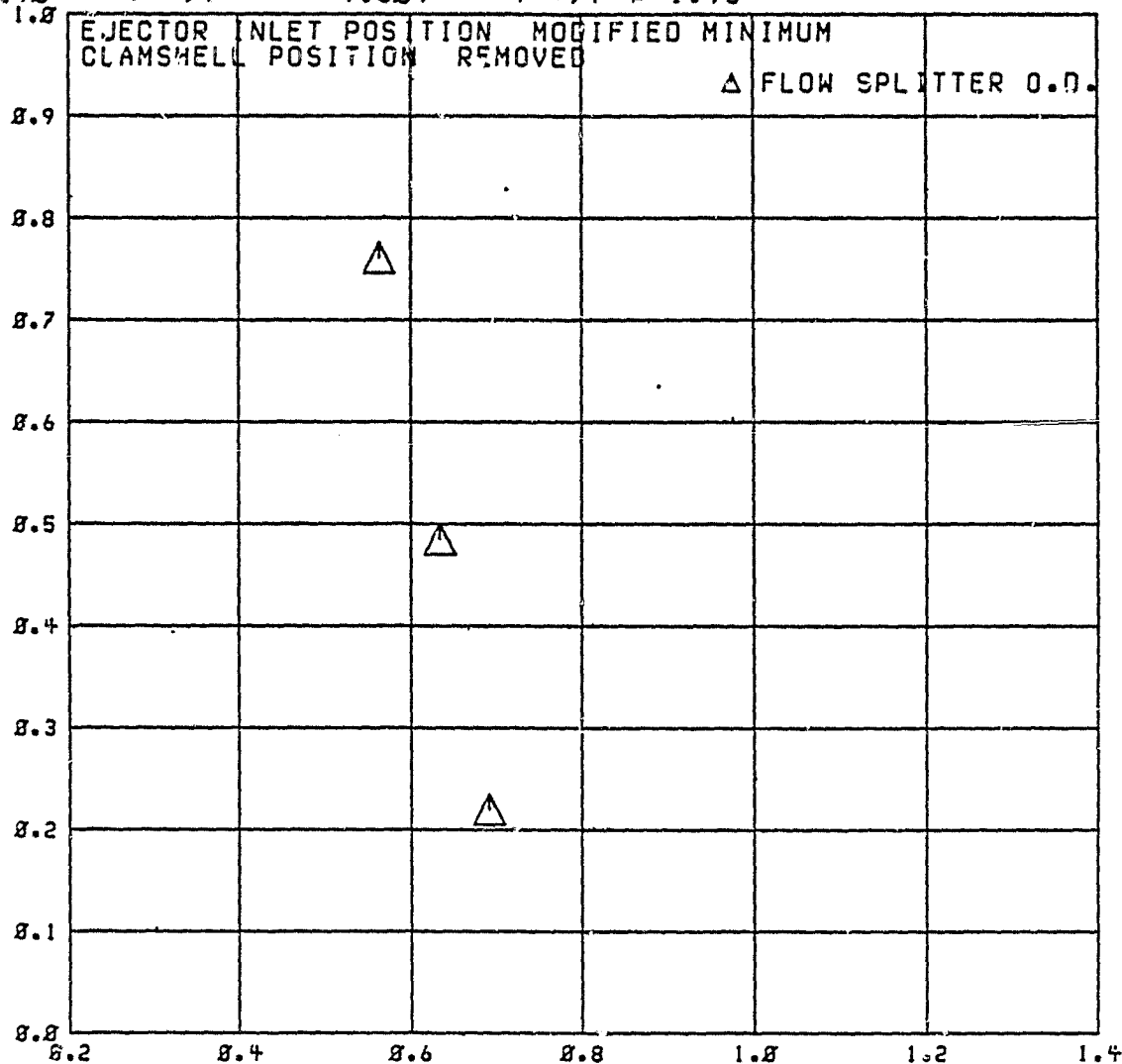
$M_0 = 0.98$

$P_{tr}/P_{02} =$

4.689

$P_{tr}/P_{tp} = 1.98$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_1/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

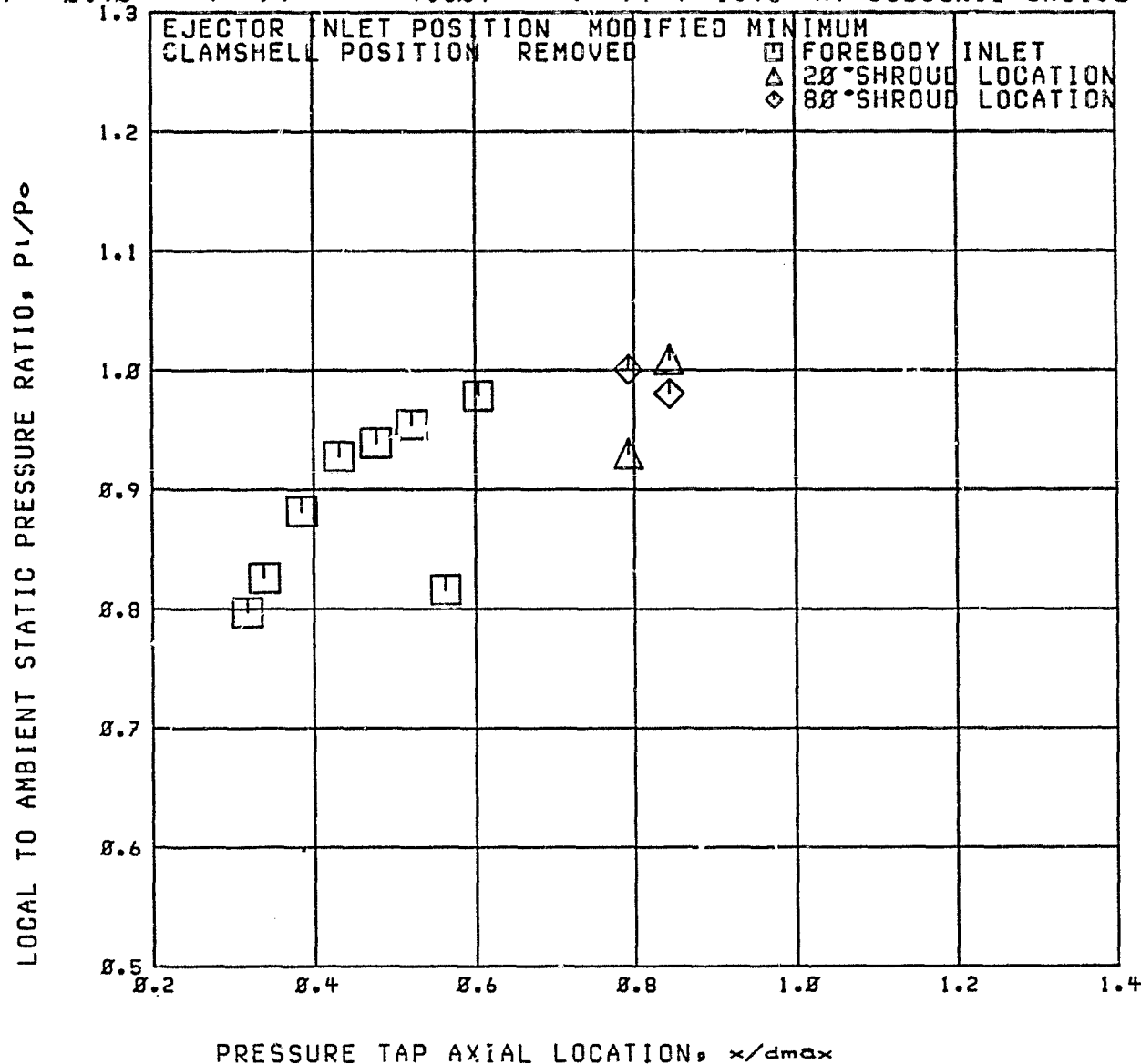
RUN 39

RDG=2069

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.98$   $P_{tr}/P_o = 4.609$   $P_{tr}/P_{tr} = 1.98$  AT SUBSONIC CRUISE



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Rev 39

A2

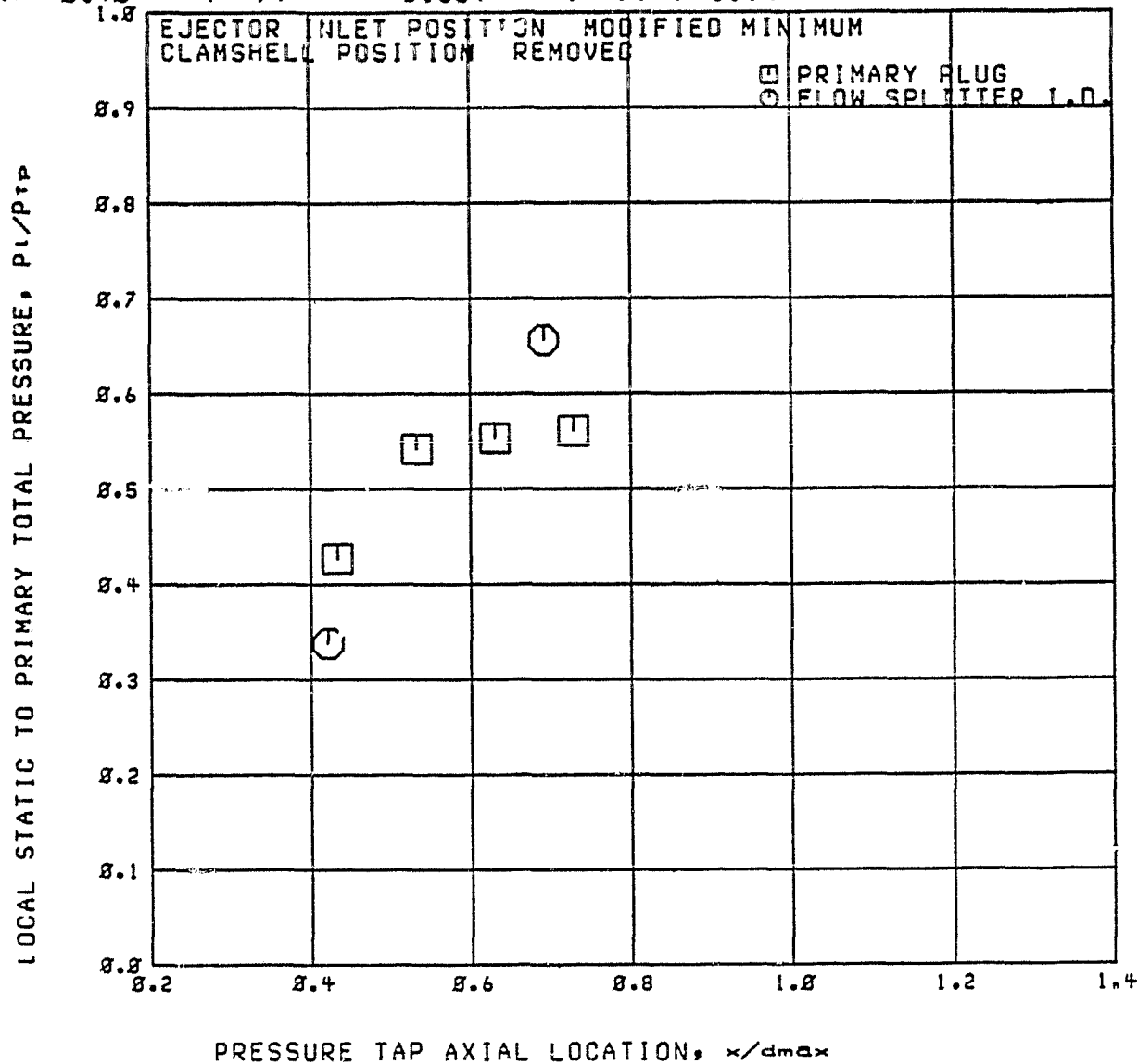
RDG=2878

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$

$P_{tr}/P_{0e} = 3.569$

$P_{tr}/P_{tp} = 1.94$



Run 39

A2

RDG=2878

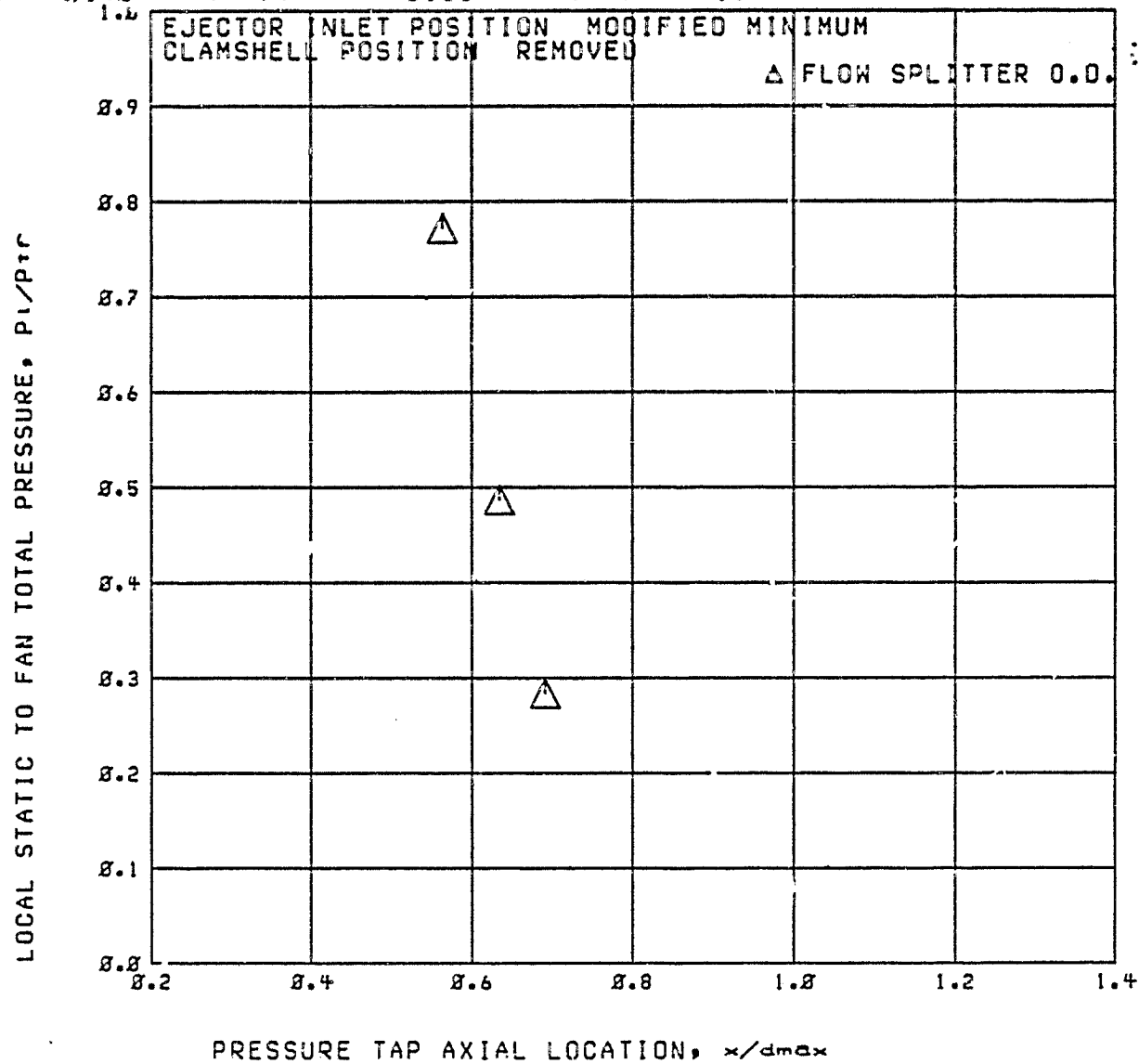
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$

$P_{tr}/P_{02} =$

3.569

$P_{tr}/P_{tp} = 1.94$



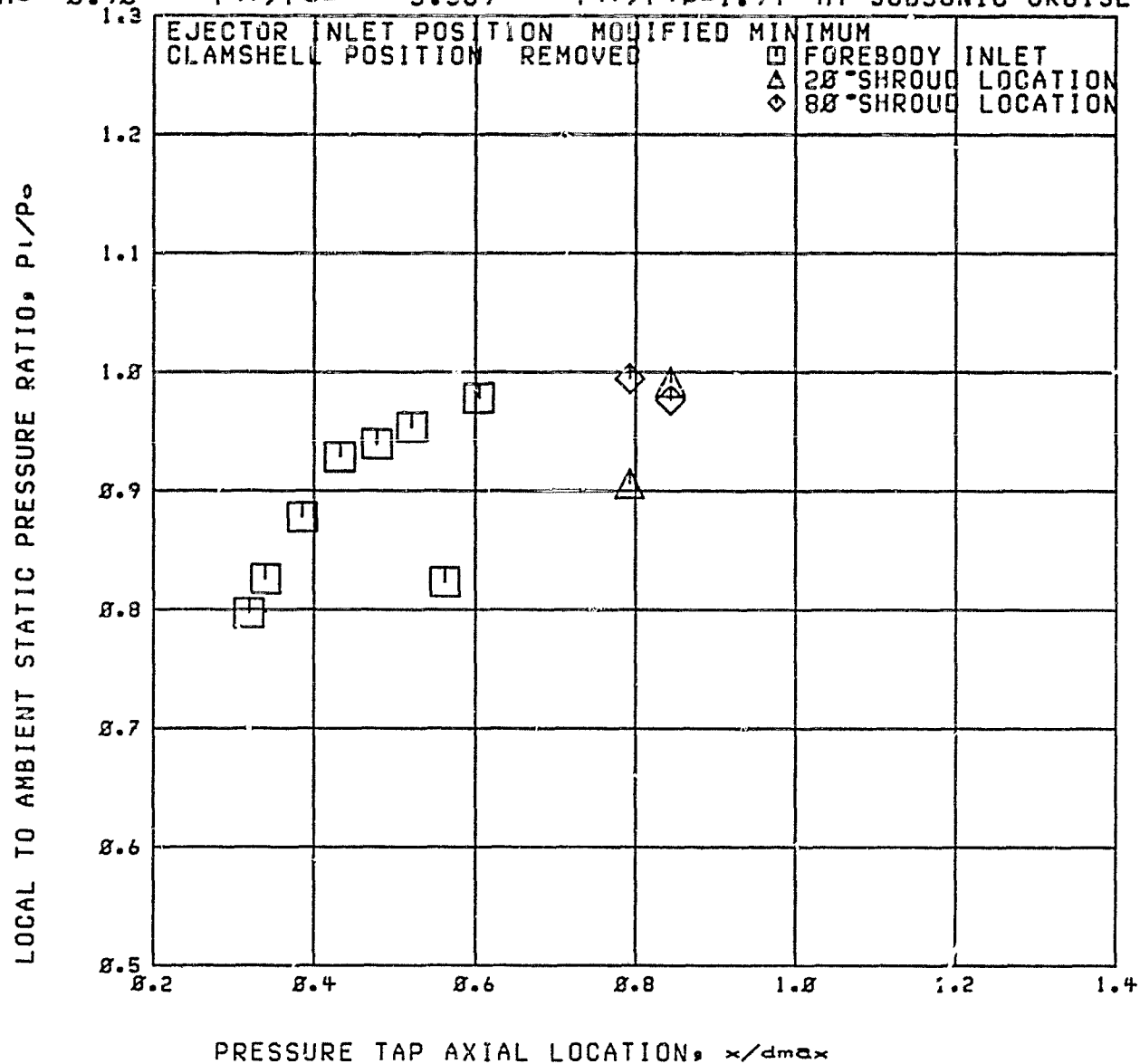
RUN 39

RDG=2878

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.98$   $P_{tr}/P_0 = 3.569$   $P_{tr}/P_{tr} = 1.94$  AT SUBSONIC CRUISE



RDG 2171-2223

A2

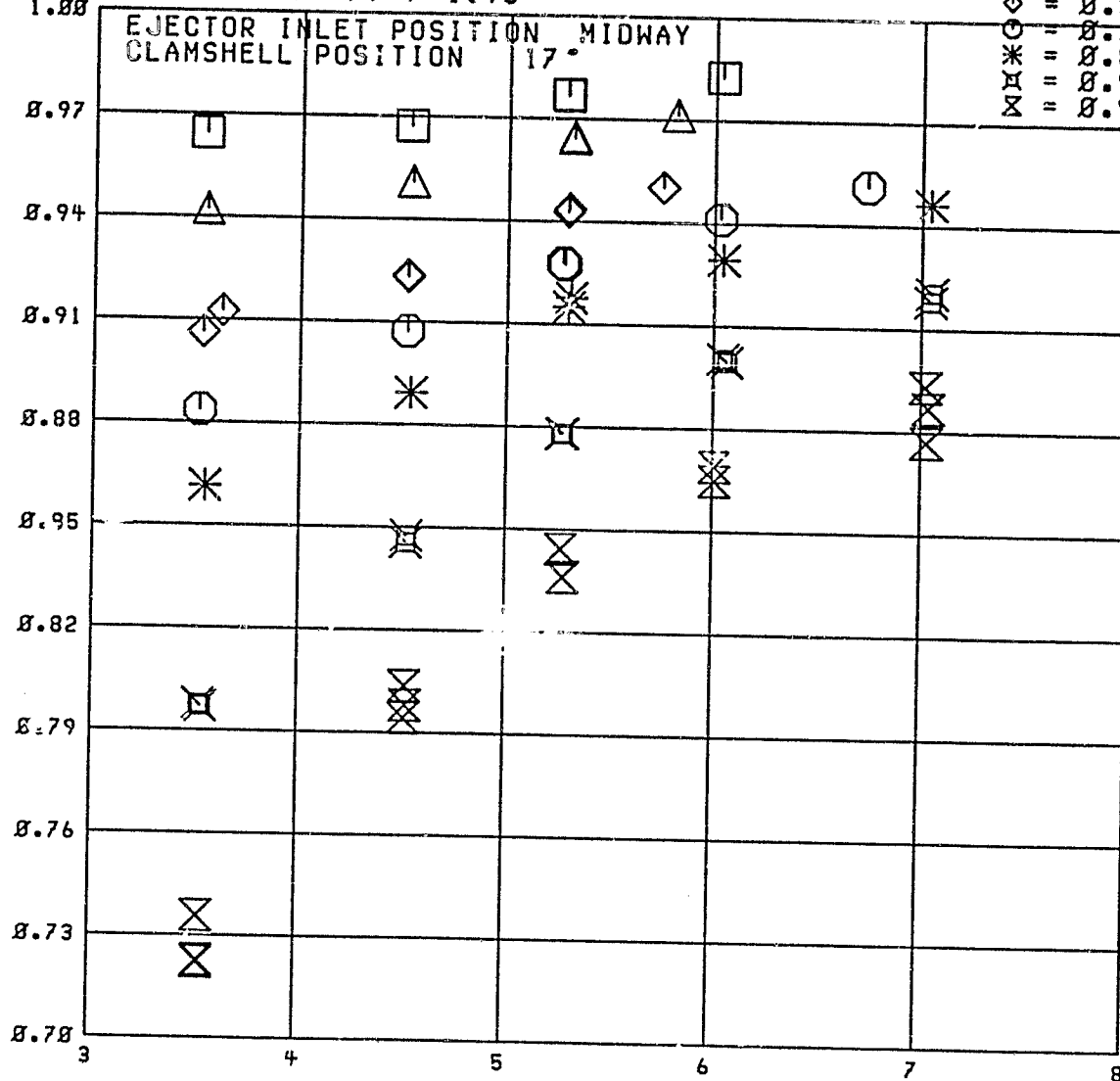
SUBSONIC CRUISE

RUN 44  $M_0 = 0.95$   $P_{tr}/P_{tp} = 1.93$

$M_0 =$

$\square = 0.8$   
 $\triangle = 0.836$   
 $\diamond = 0.85$   
 $\circ = 0.875$   
 $* = 0.88$   
 $\times = 0.90$   
 $\otimes = 0.95$

NOZZLE GROSS THRUST COEFFICIENT, CFP1



FAN NOZZLE PRESSURE RATIO, PTF/PO

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ROG, 2171-2223

A2

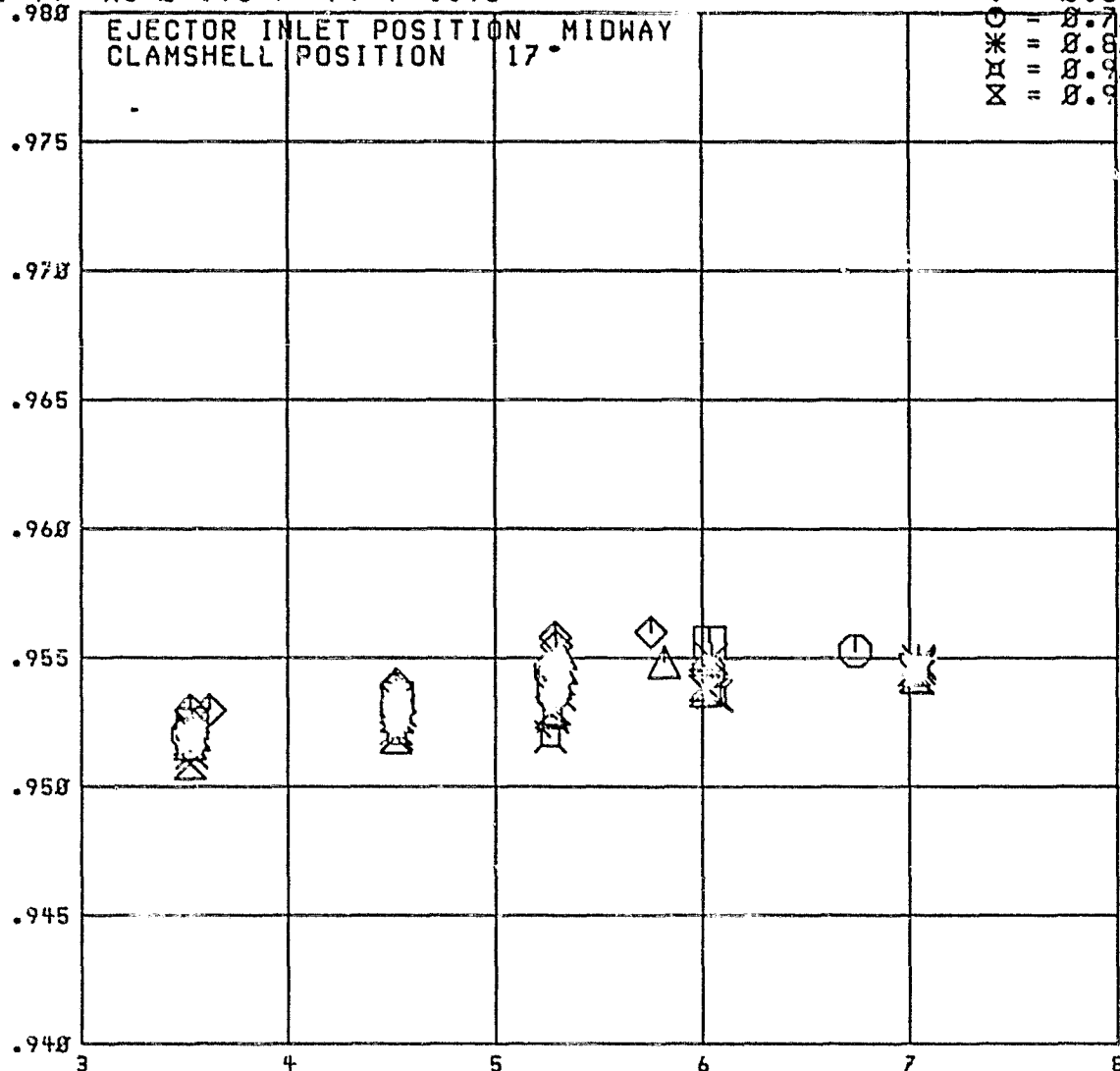
SUBSONIC CRUISE

RUN 44 MO=0.95 P<sub>tr</sub>/P<sub>tp</sub>=1.93

Mo =

□ = 0.8  
 △ = 0.36  
 ◇ = 0.56  
 ○ = 0.70  
 \* = 0.80  
 x = 0.90  
 X = 0.95

FAN-NOZZLE FLOW COEFFICIENT, CDF



FAN NOZZLE PRESSURE RATIO, PTF/PO

RDG 2171-2223

A2

SUBSONIC CRUISE

RUN 44  $M_0 = 0.95$   $P_{tr}/P_{tp} = 1.93$

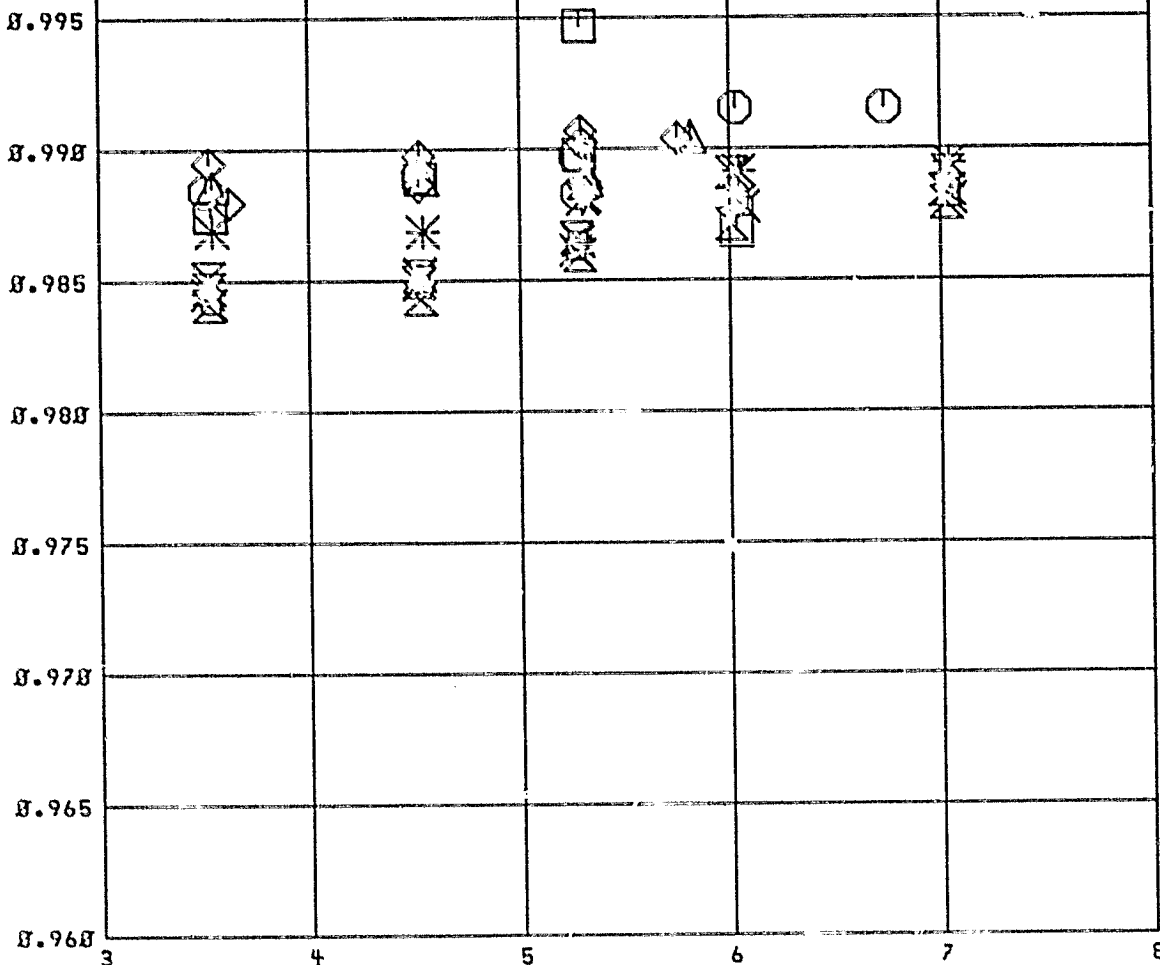
1.888

EJECTOR INLET POSITION MIDWAY  
CLAMSHELL POSITION 17°

$M_0 =$

$\square = 0.8$   
 $\triangle = 0.86$   
 $\diamond = 0.88$   
 $\circ = 0.90$   
 $\times = 0.92$   
 $\oplus = 0.94$   
 $\otimes = 0.95$

PRIMARY-NOZZLE FLOW COEFFICIENT, CDP



FAN NOZZLE PRESSURE RATIO, PTF/PO

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RUN 44

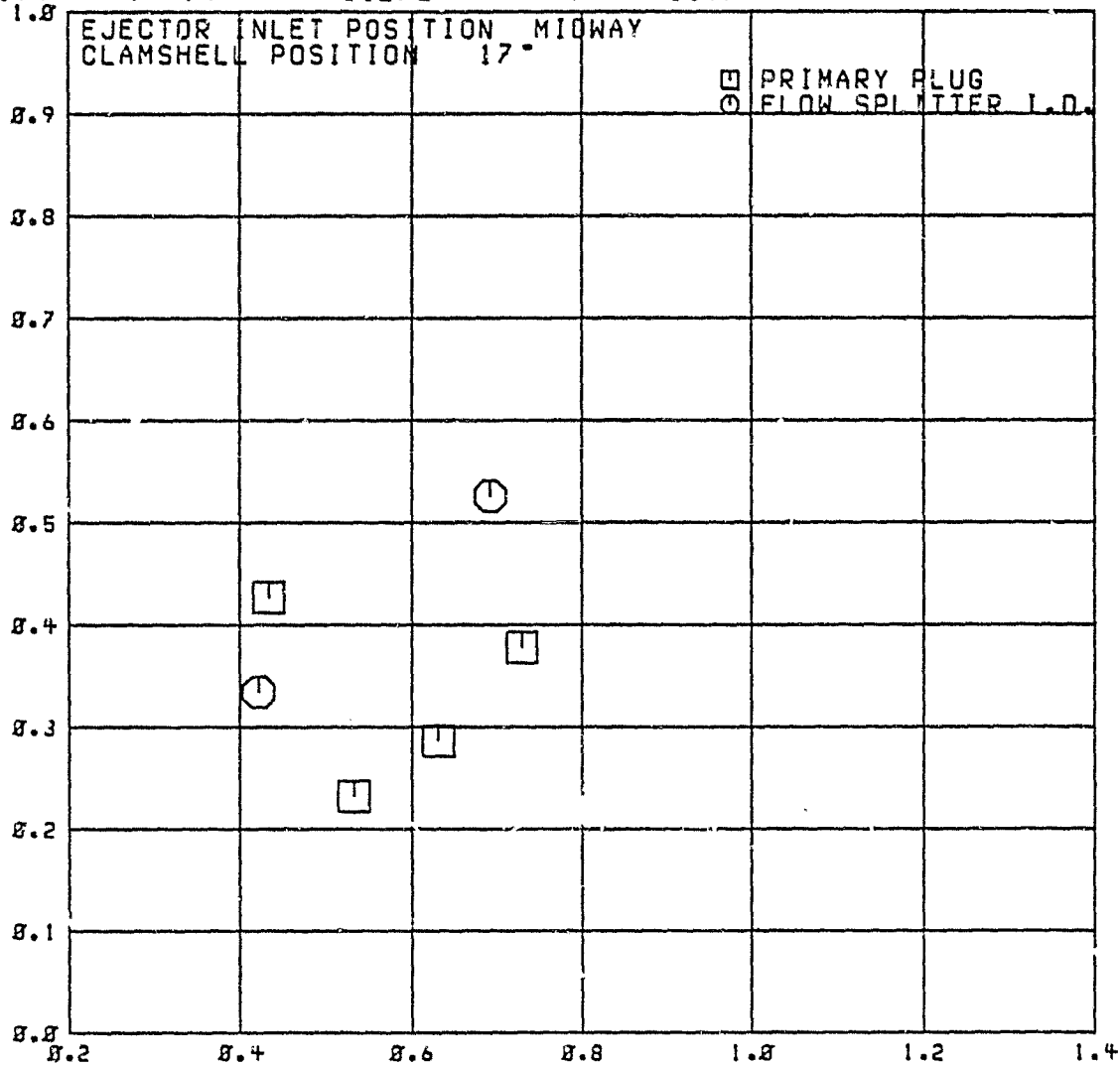
A2

RDG=2173

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.94$      $P_{tr}/P_{02} = 5.272$      $P_{tr}/P_{tp} = 1.97$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

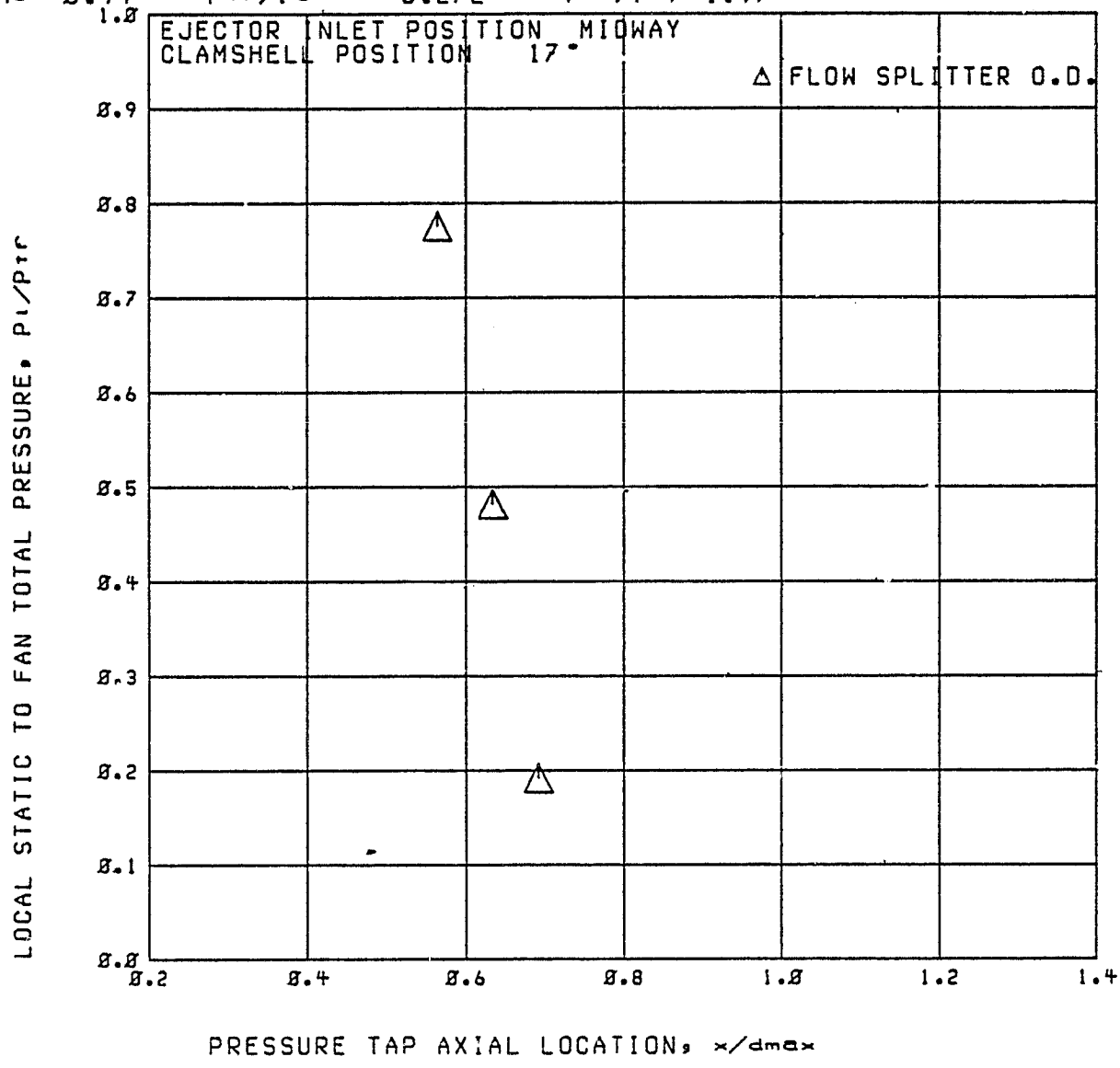
RUN 44

A2

RDG=2173

PLUG AND SPLITTER-STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.94$        $P_{tr}/P_0 = 5.272$        $P_{tr}/P_{trp} = 1.97$



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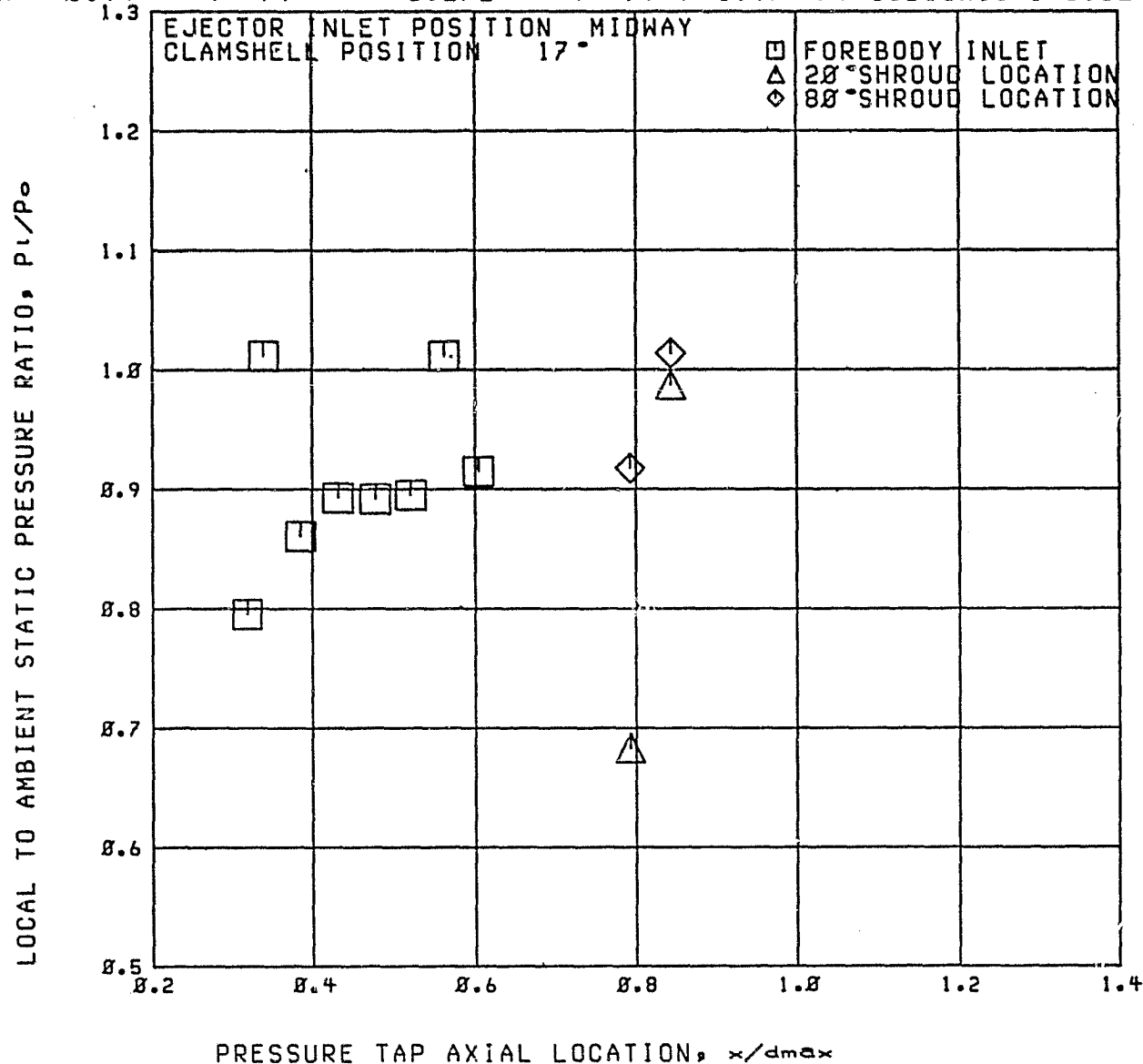
RUN 44

A2

RDG=2173

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.94$   $P_{tr}/P_o = 5.272$   $P_{tr}/P_{tr} = 1.97$  AT SUBSONIC CRUISE



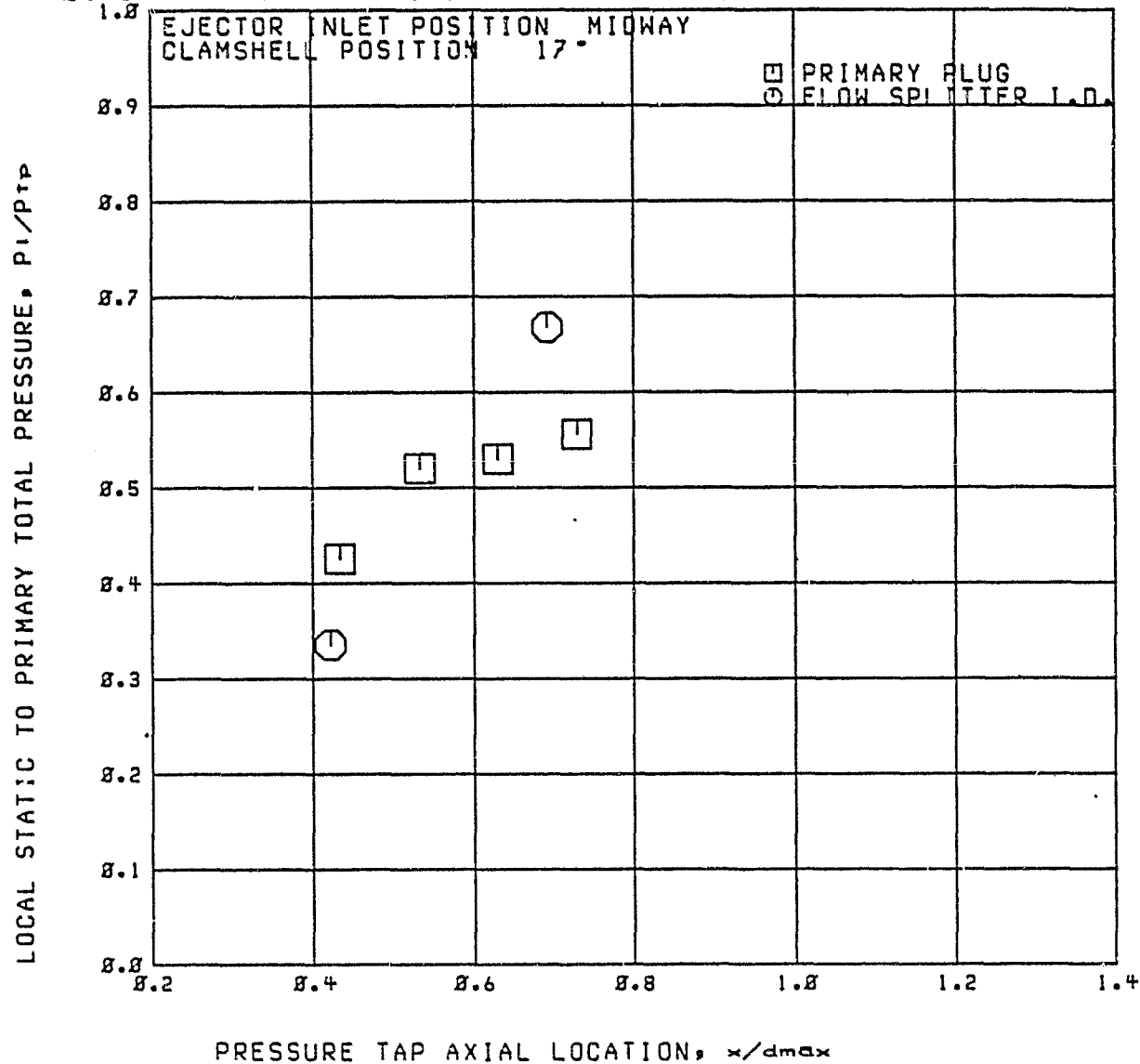
RUN 44

A2

RDG=2184

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.90$   $P_{tr}/P_0 = 3.537$   $P_{tr}/P_{tp} = 1.95$



RUN 44

A2

RDG=2184

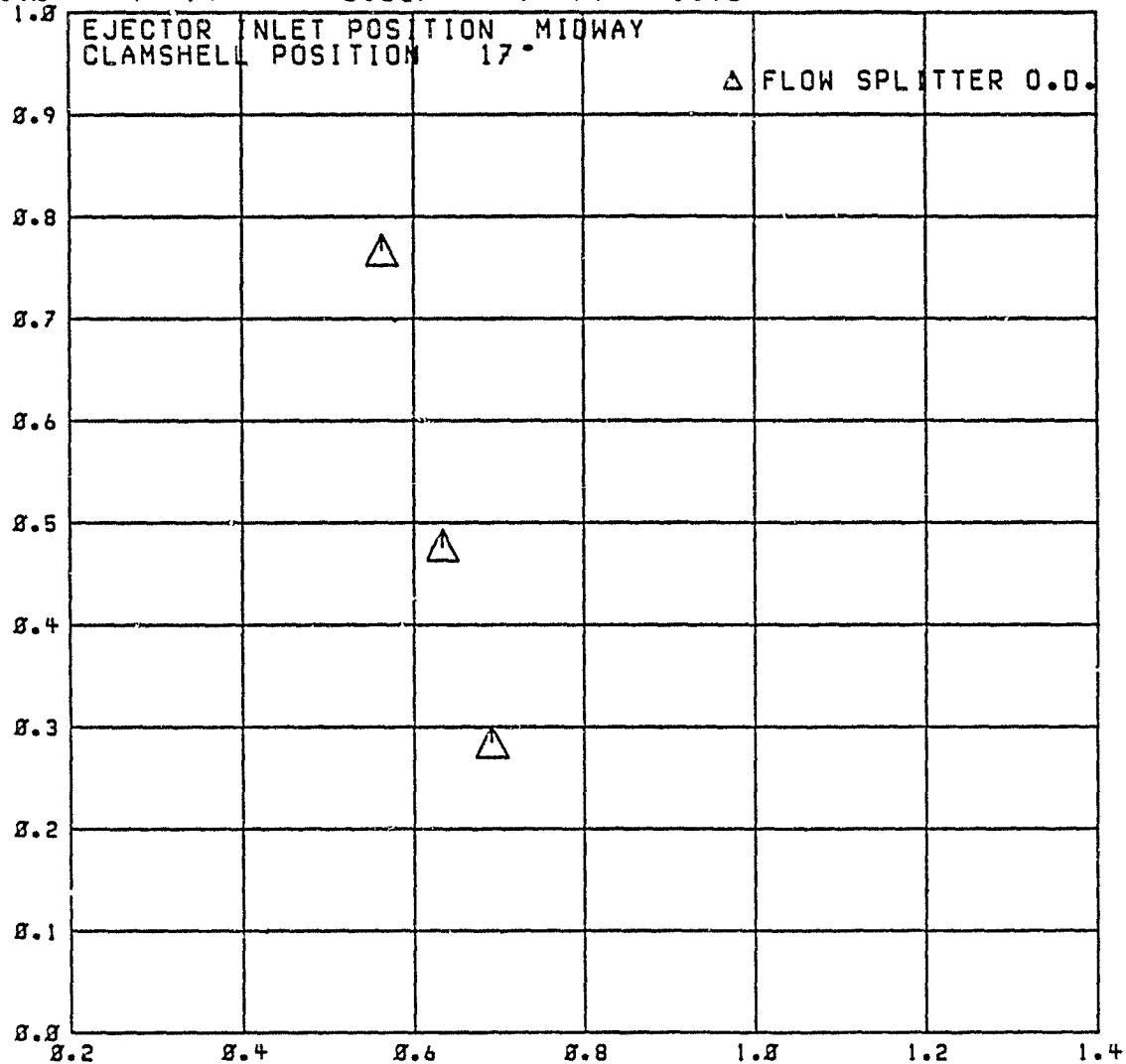
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.90$

$P_{tr}/P_{0x} = 3.537$

$P_{tr}/P_{tr0} = 1.95$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

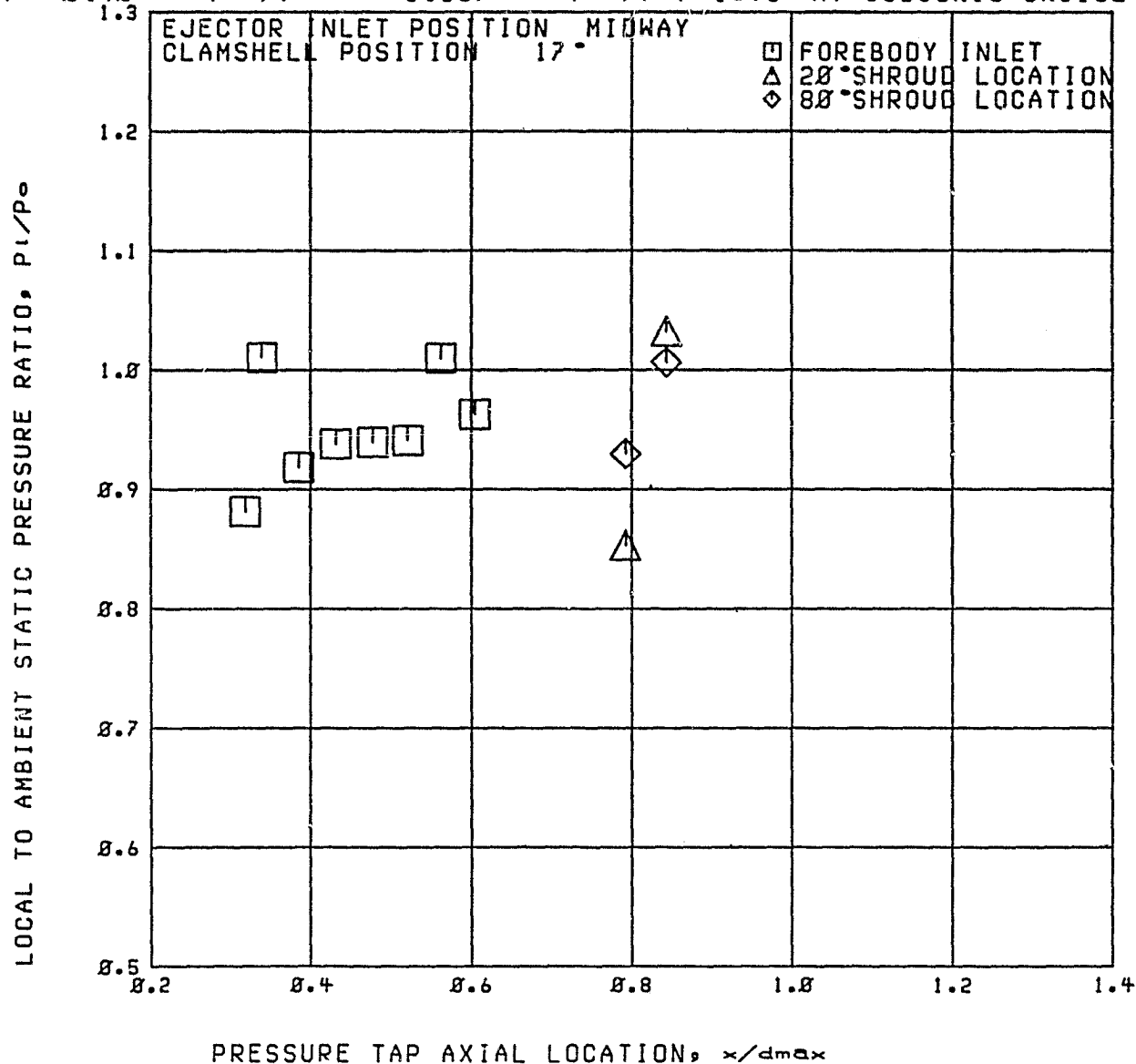
Run 44

RDG=2184

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.90$   $P_{tr}/P_o = 3.537$   $P_{tr}/P_{tr} = 1.95$  AT SUBSONIC CRUISE



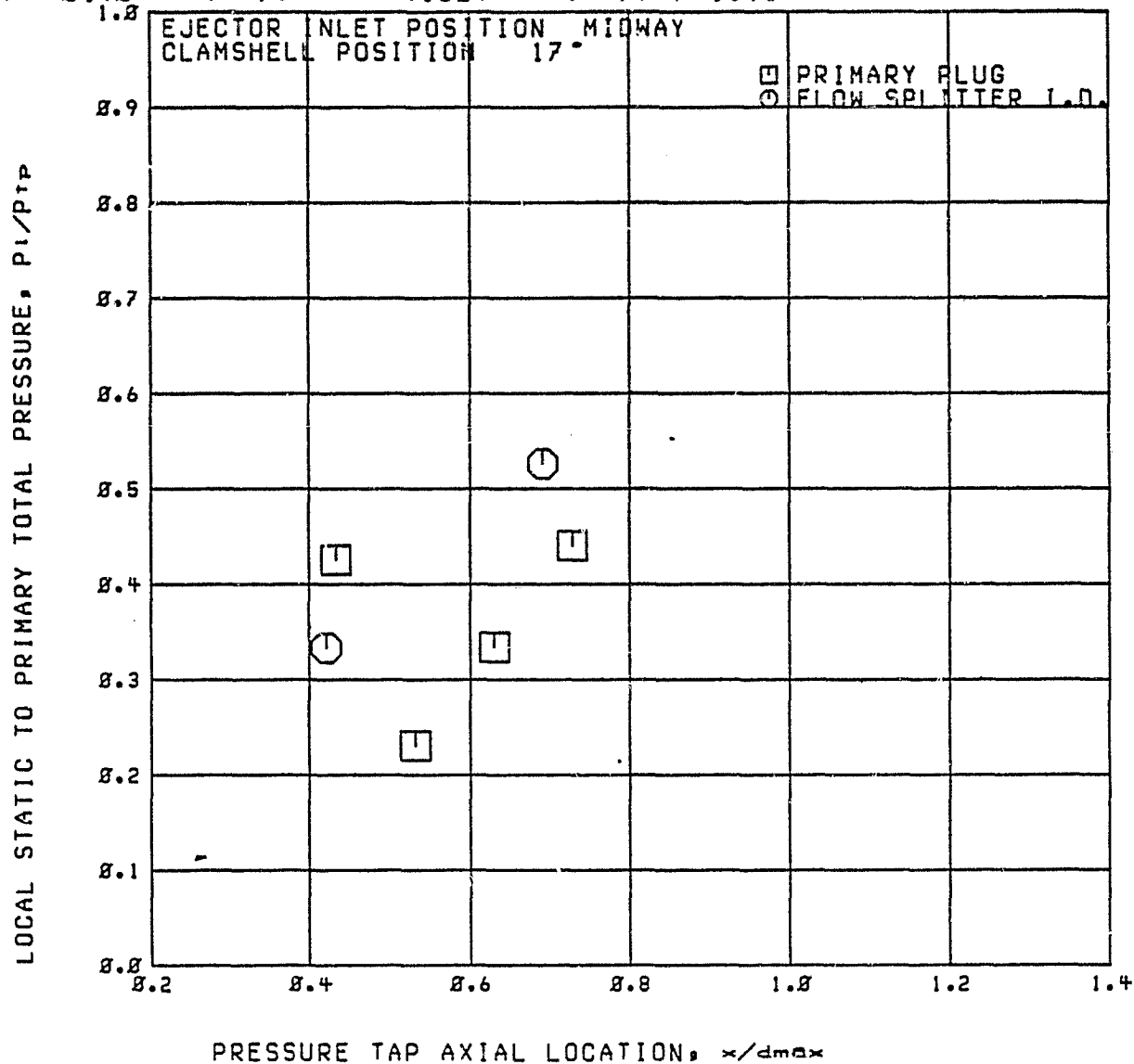
RUN 44

A2

RDG=2185

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$   $P_{tr}/P_0 = 4.524$   $P_{tr}/P_{tp} = 1.98$



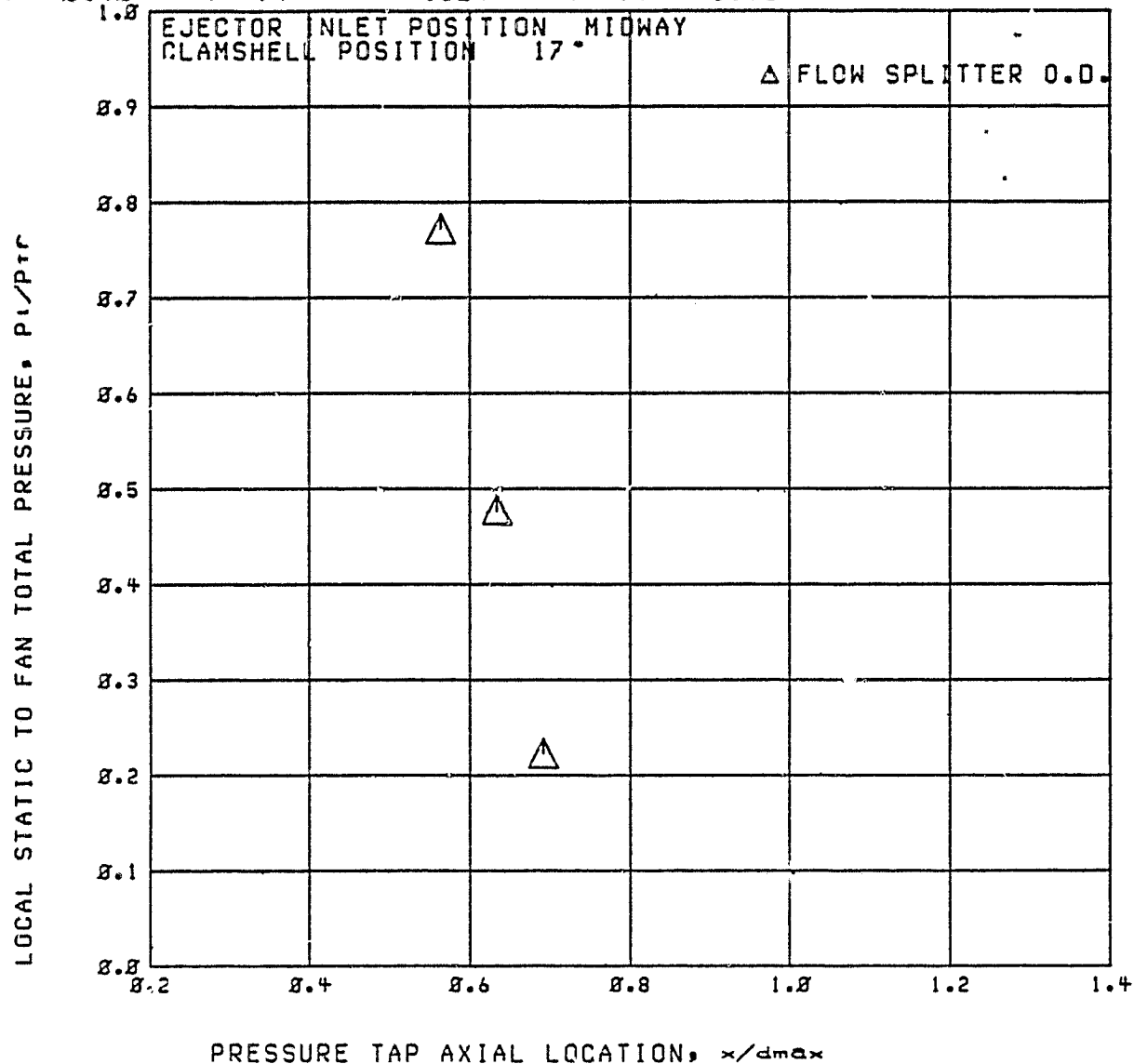
Run 44

A2

RDG=2185

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$   $P_{tr}/P_0 = 4.524$   $P_{tr}/P_{tp} = 1.98$



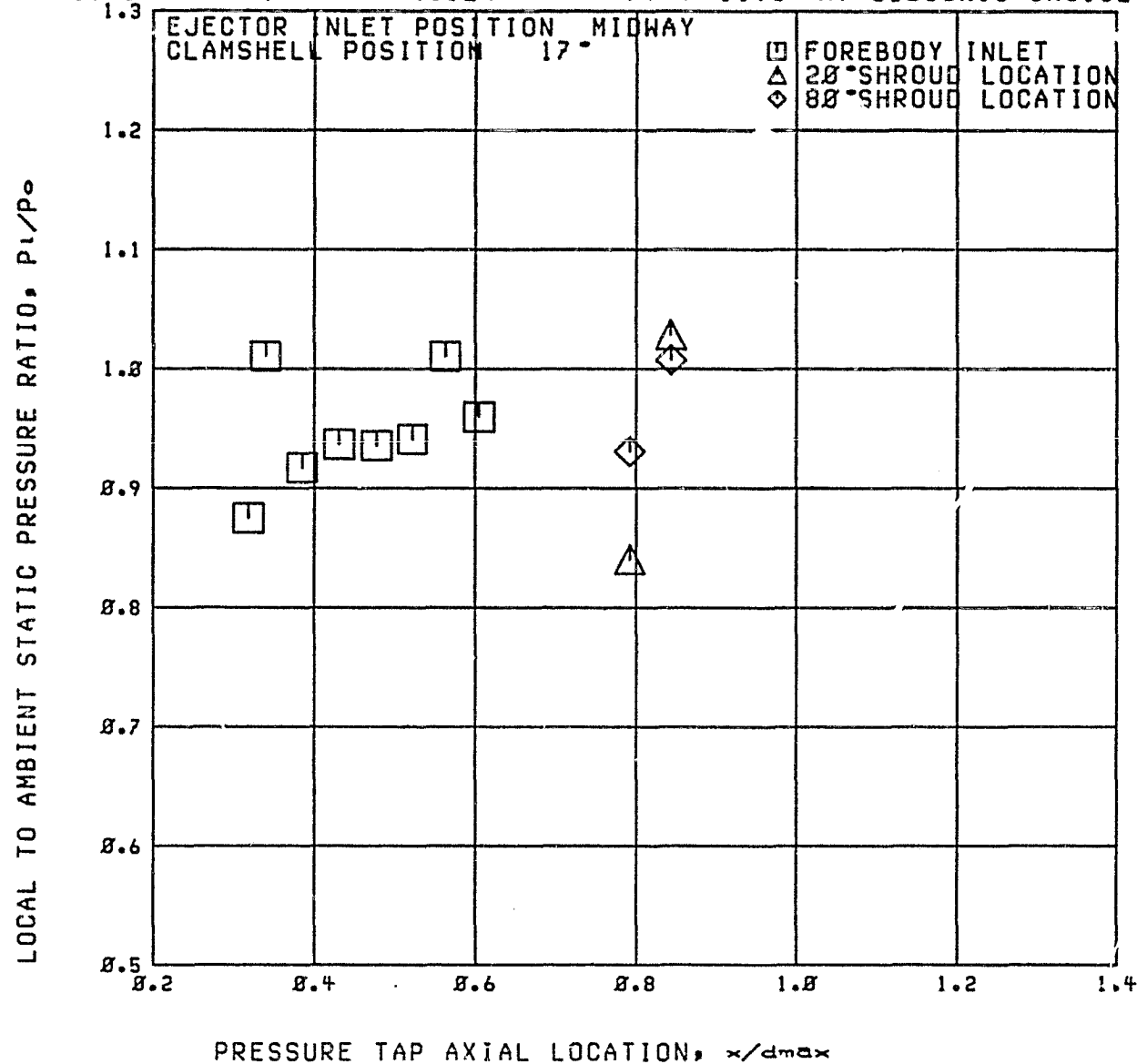
RUN 44

RDG=2185

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.90$   $P_{tr}/P_0 = 4.524$   $P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE



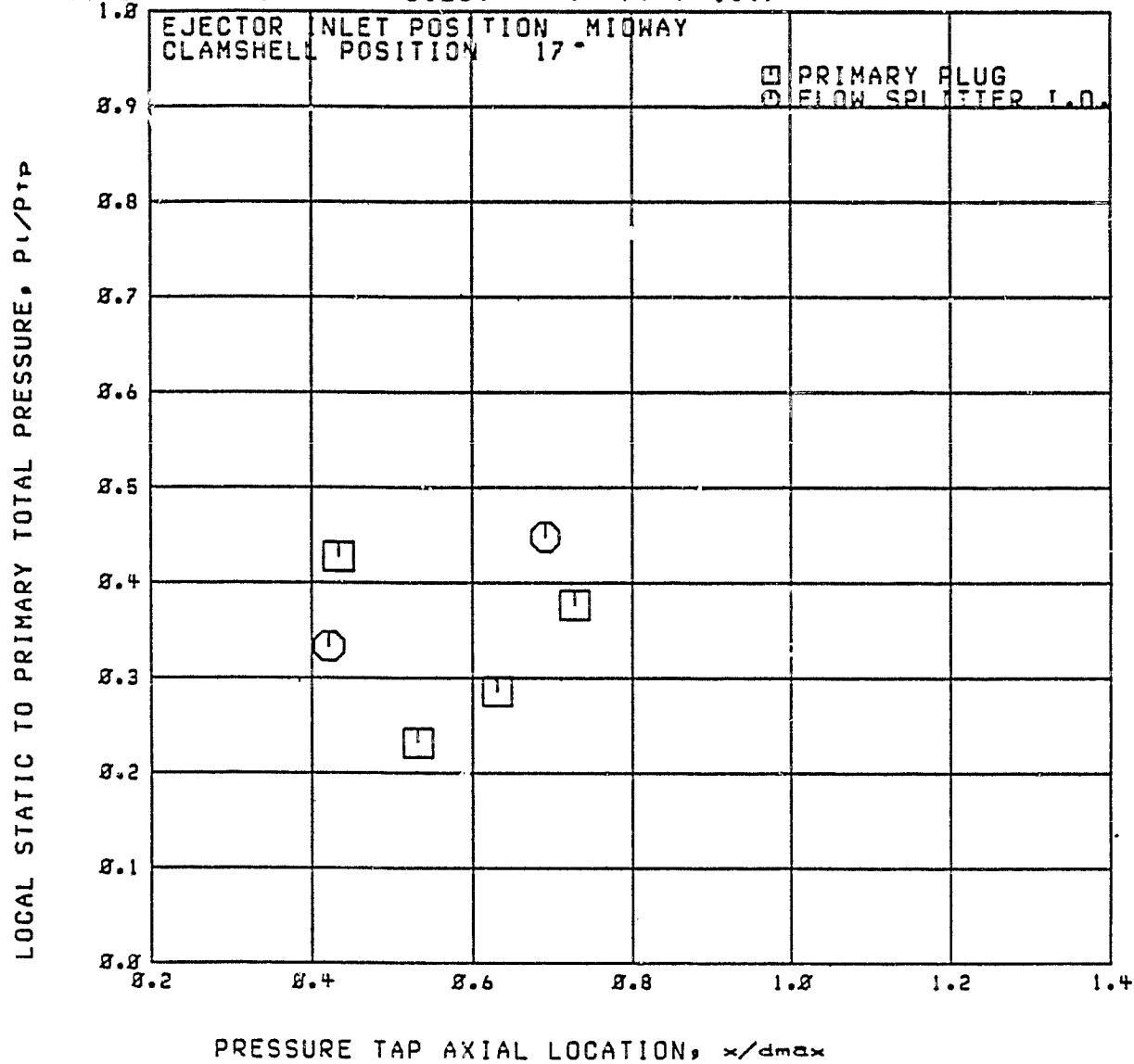
RUN 44

A2

RDG=2186

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.98$   $P_{tr}/P_o = 5.269$   $P_{tr}/P_{tp} = 1.97$





Run 44

RDG=2186

A2

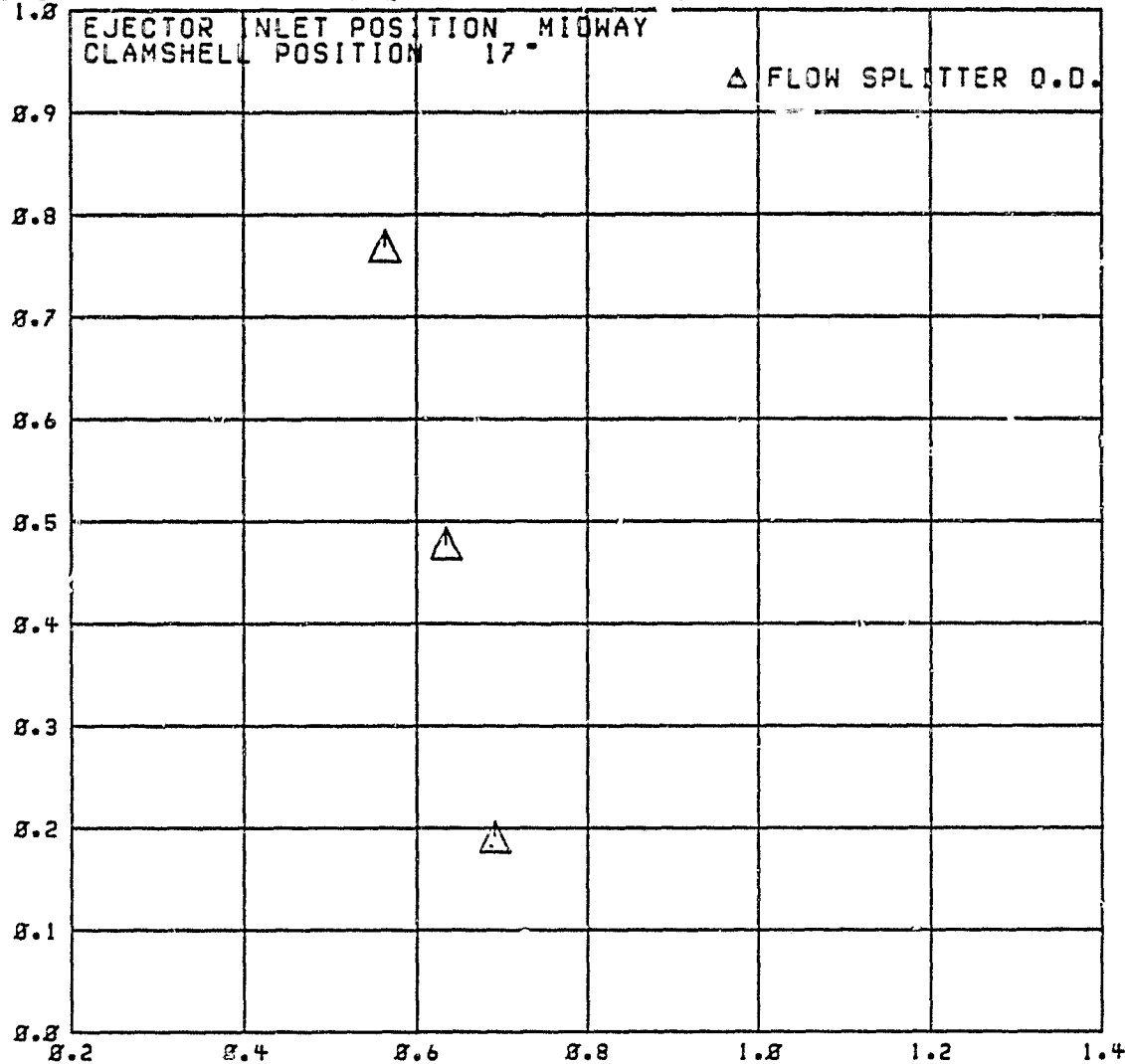
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$

$P_{tr}/P_0 = 5.269$

$P_{tr}/P_{tp} = 1.97$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

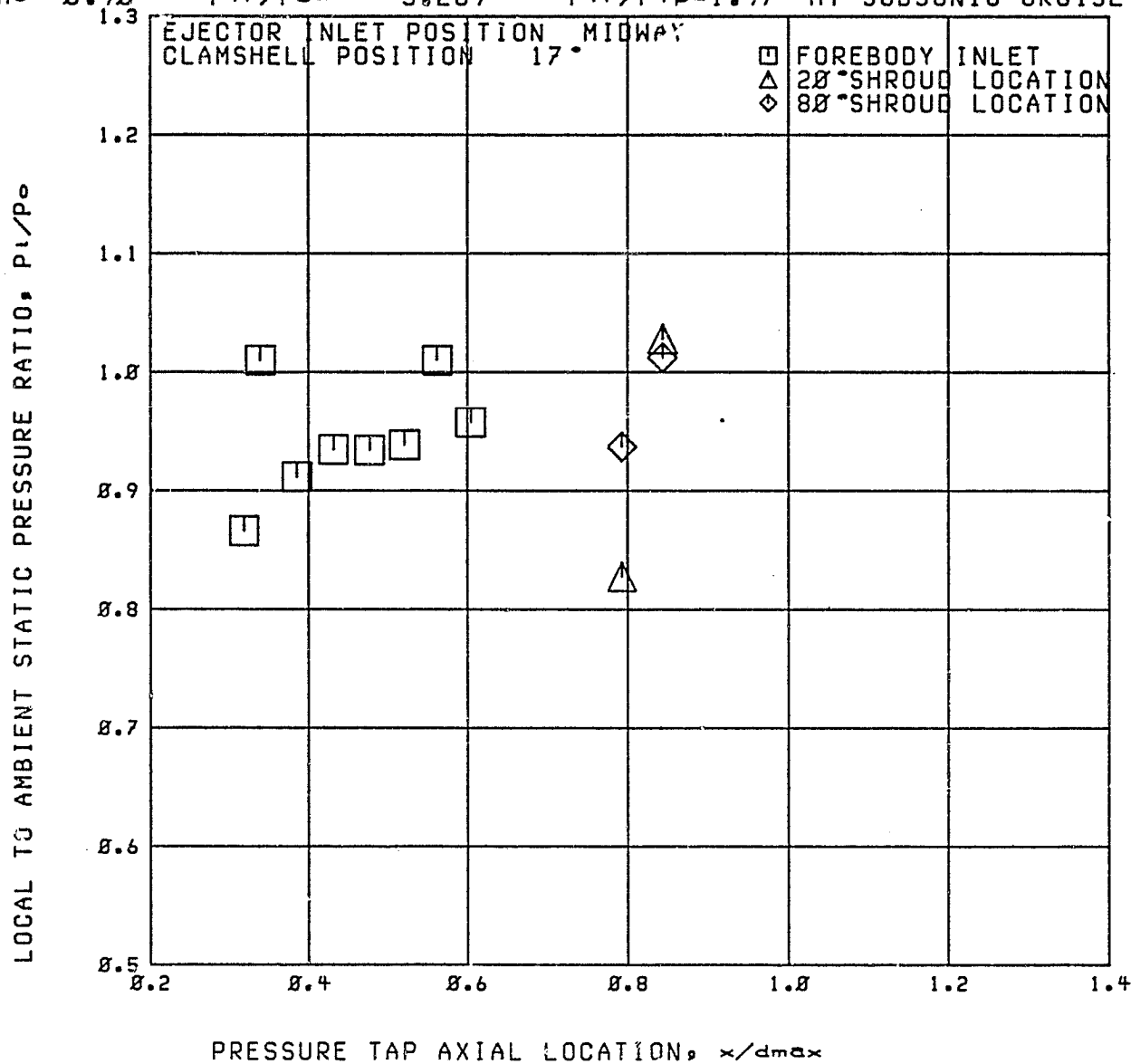
RUN 44

RDG=2186

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.90$   $P_{tr}/P_0 = 5.269$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



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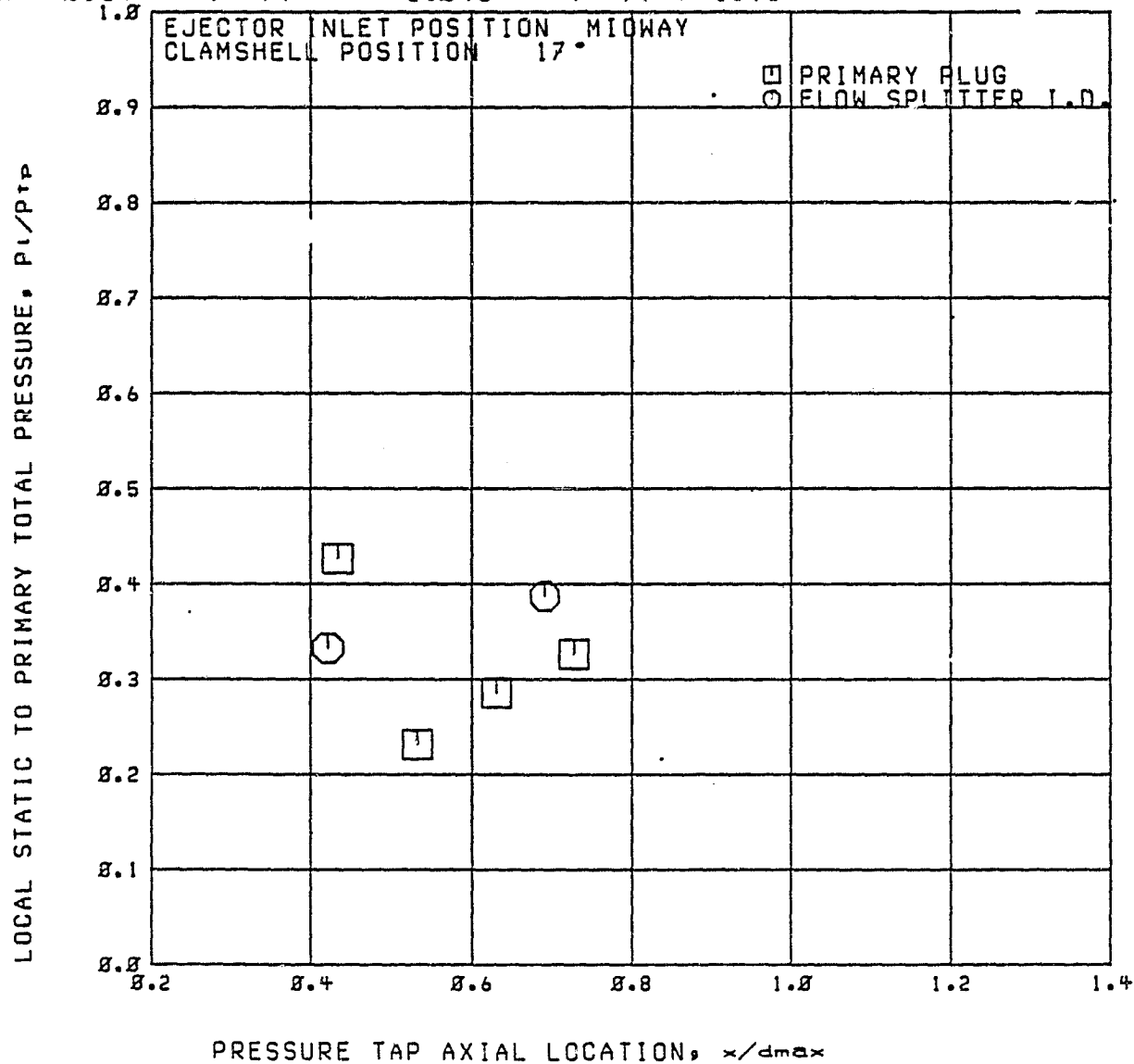
RUN 44

A2

RDG=2187

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$   $P_{tr}/P_o = 6.048$   $P_{tr}/P_{trp} = 1.96$



RUN 44

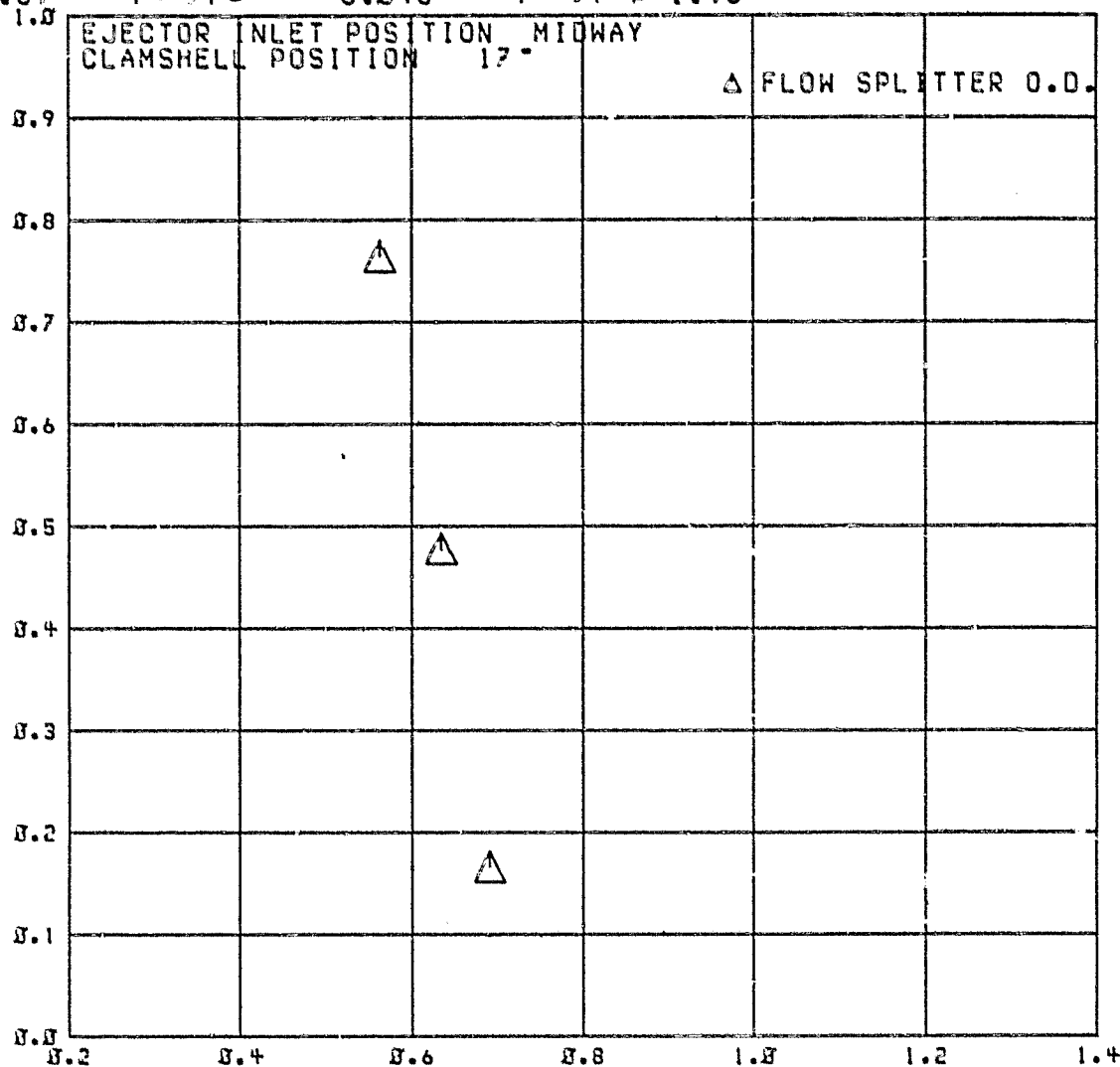
A2

RDG=2187

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

Mo = 0.89      Pr/Po = 6.848      Pr/Ptp = 1.96

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_1/P_{tF}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

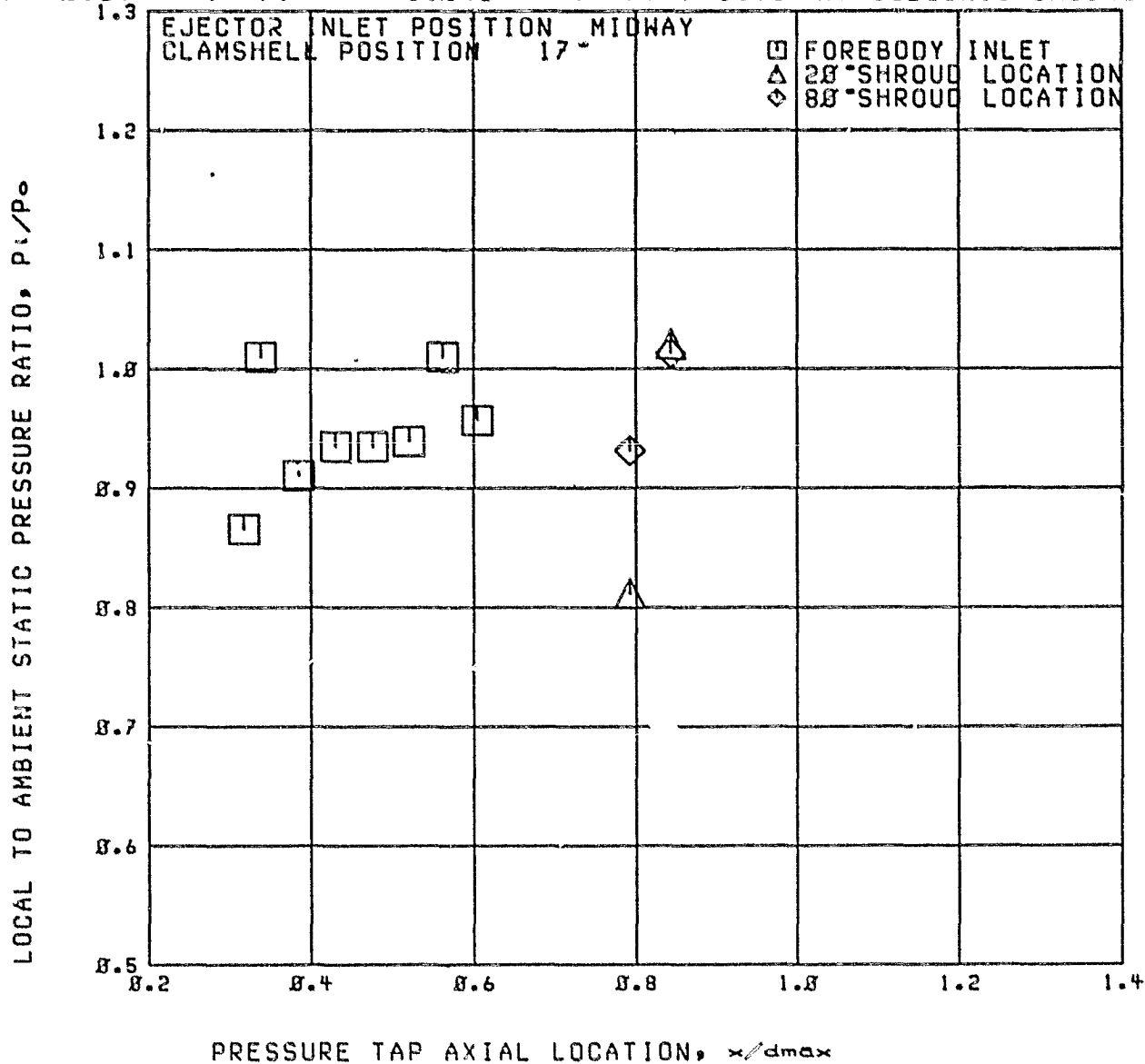
RUN 44

RDG=2187

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 6.048$   $P_{tr}/P_{tp} = 1.96$  AT SUBSONIC CRUISE



Run 44

A2

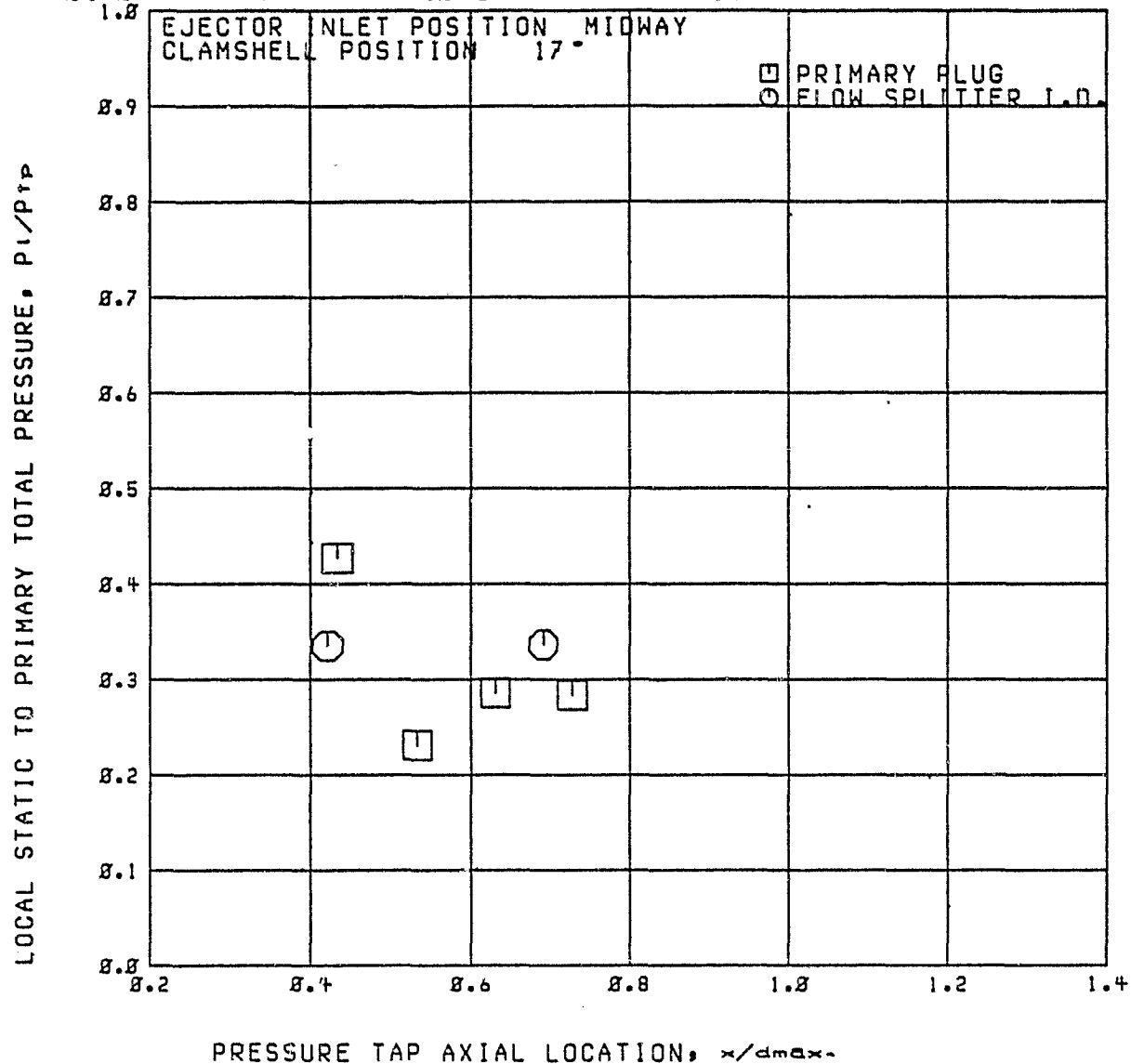
RDG=2188

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.98$

$P_{tr}/P_o = 7.045$

$P_{tr}/P_{tp} = 1.98$



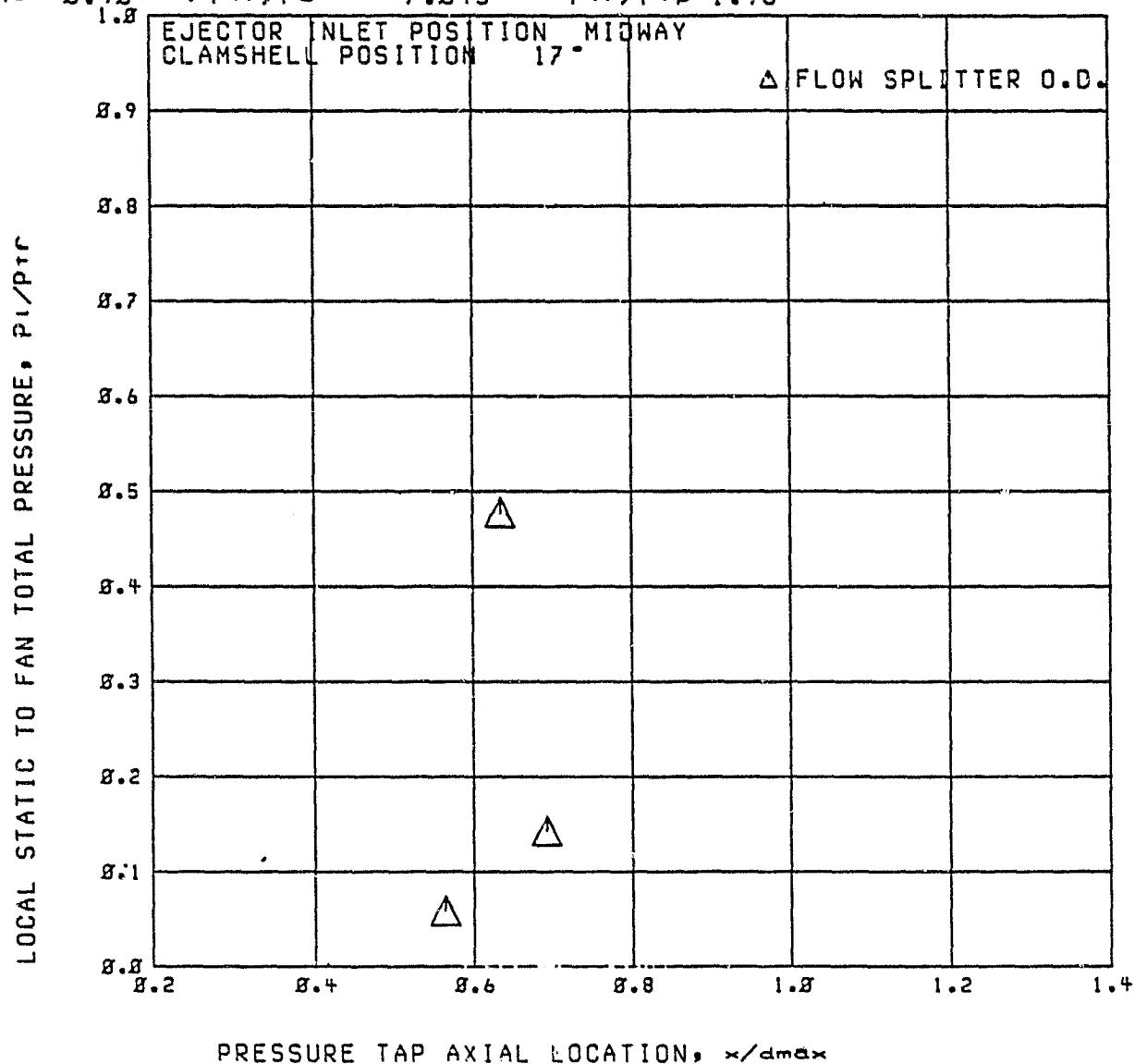
RUN 44

A2

RDG=2188

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.98$      $P_{tr}/P_0 = 7.045$      $P_{tr}/P_{tp} = 1.98$



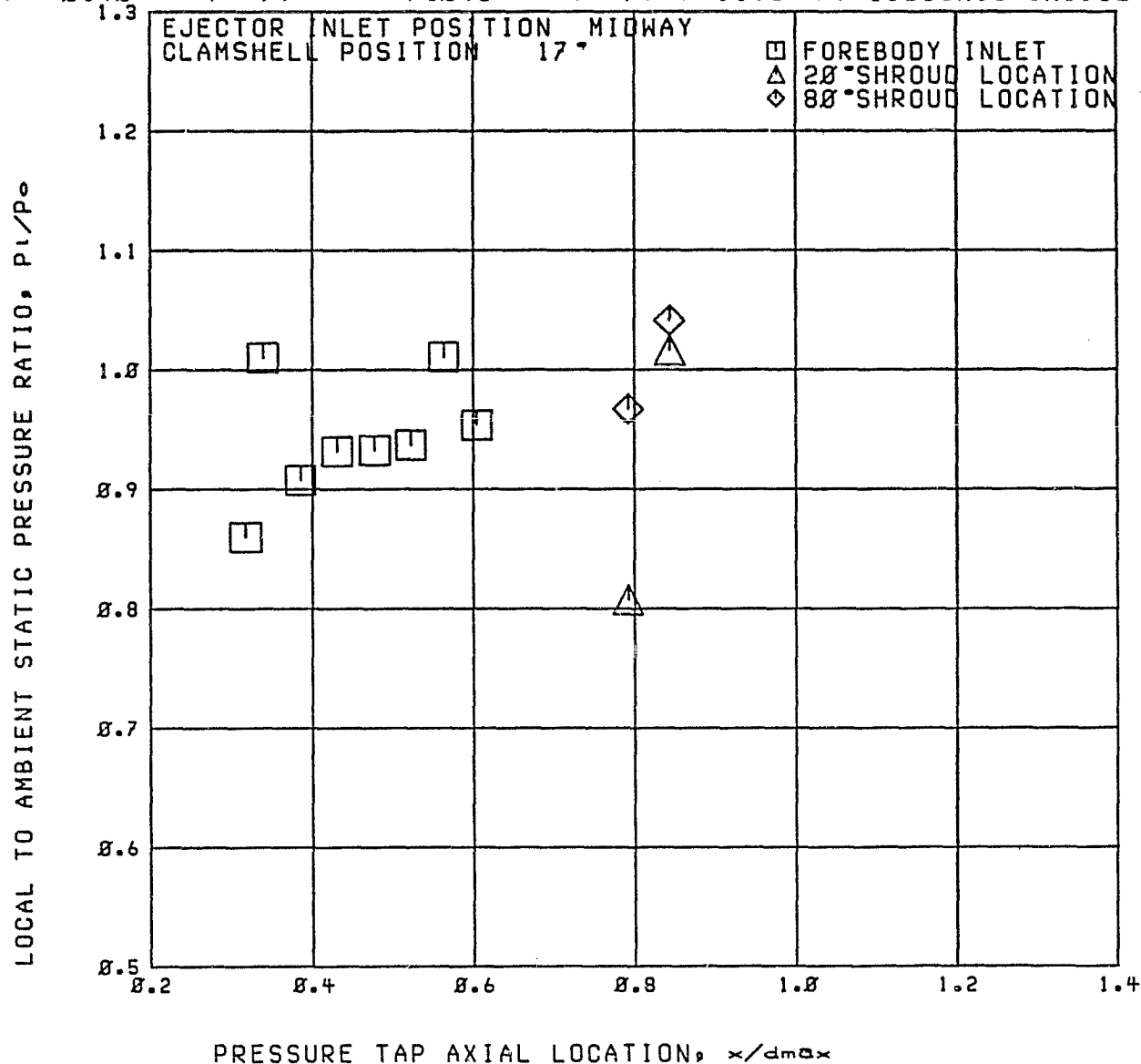
RUN 44

A2

RDG=2188

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.90$   $P_{tr}/P_o = 7.045$   $P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE





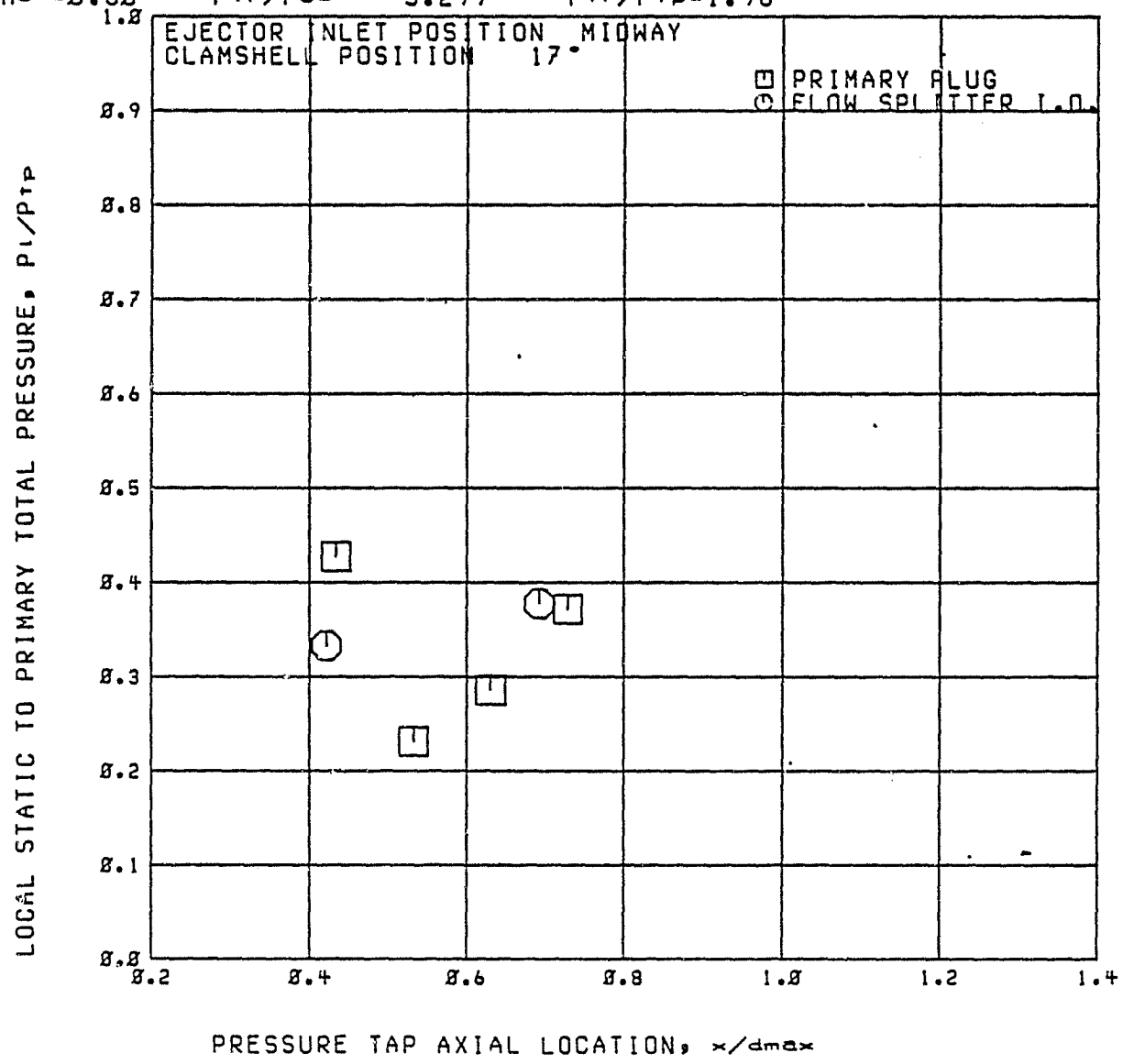
RUN 44

A2

RDG=2197

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.80$   $P_{tr}/P_{02} = 5.299$   $P_{tr}/P_{tp} = 1.96$



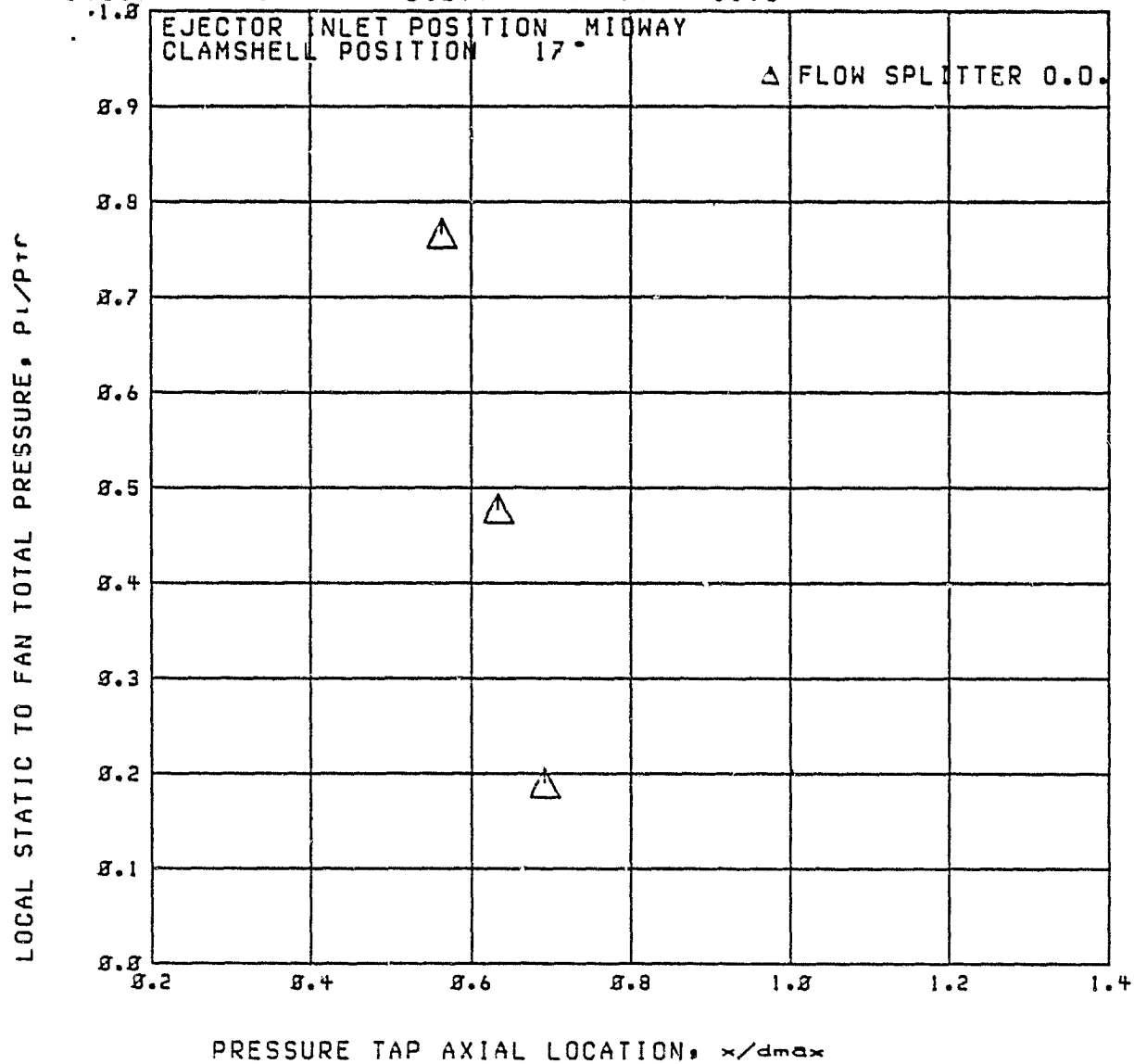
RUN 44

A2

RDG=2197

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.88$  :  $P_{tr}/P_0 = 5.299$   $P_{tr}/P_{trp} = 1.96$



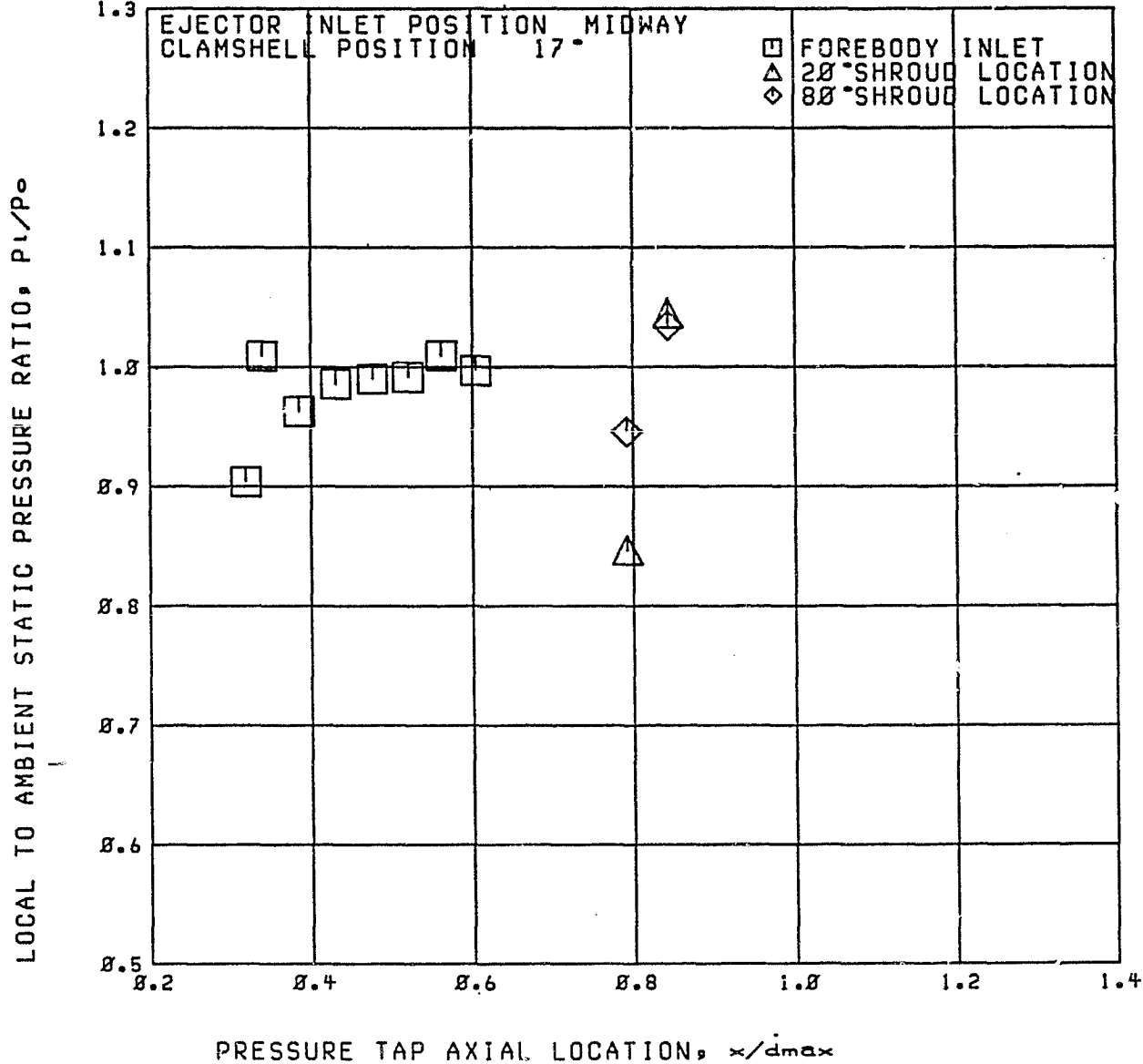
RUN 44

RDG=2197

A2

EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.80$   $P_{tr}/P_o = 5.299$   $P_{tr}/P_{tp} = 1.96$  AT SUBSONIC CRUISE



RUN 44

A2

RDG=2283

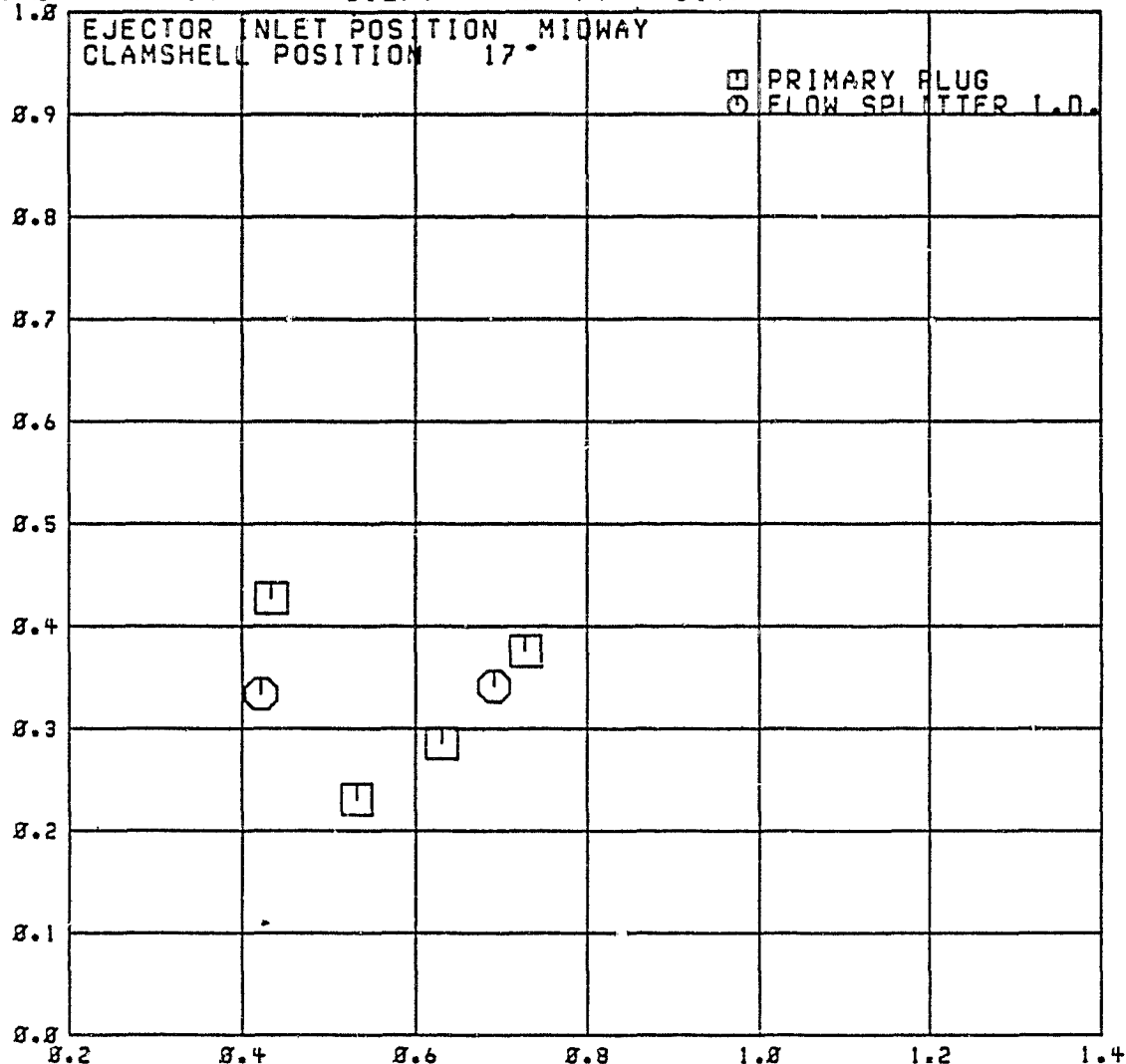
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.78$

$P_{t0}/P_0 = 5.279$

$P_{t0}/P_{tP} = 1.97$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_1/P_{tP}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 44

A2

RDG=2283

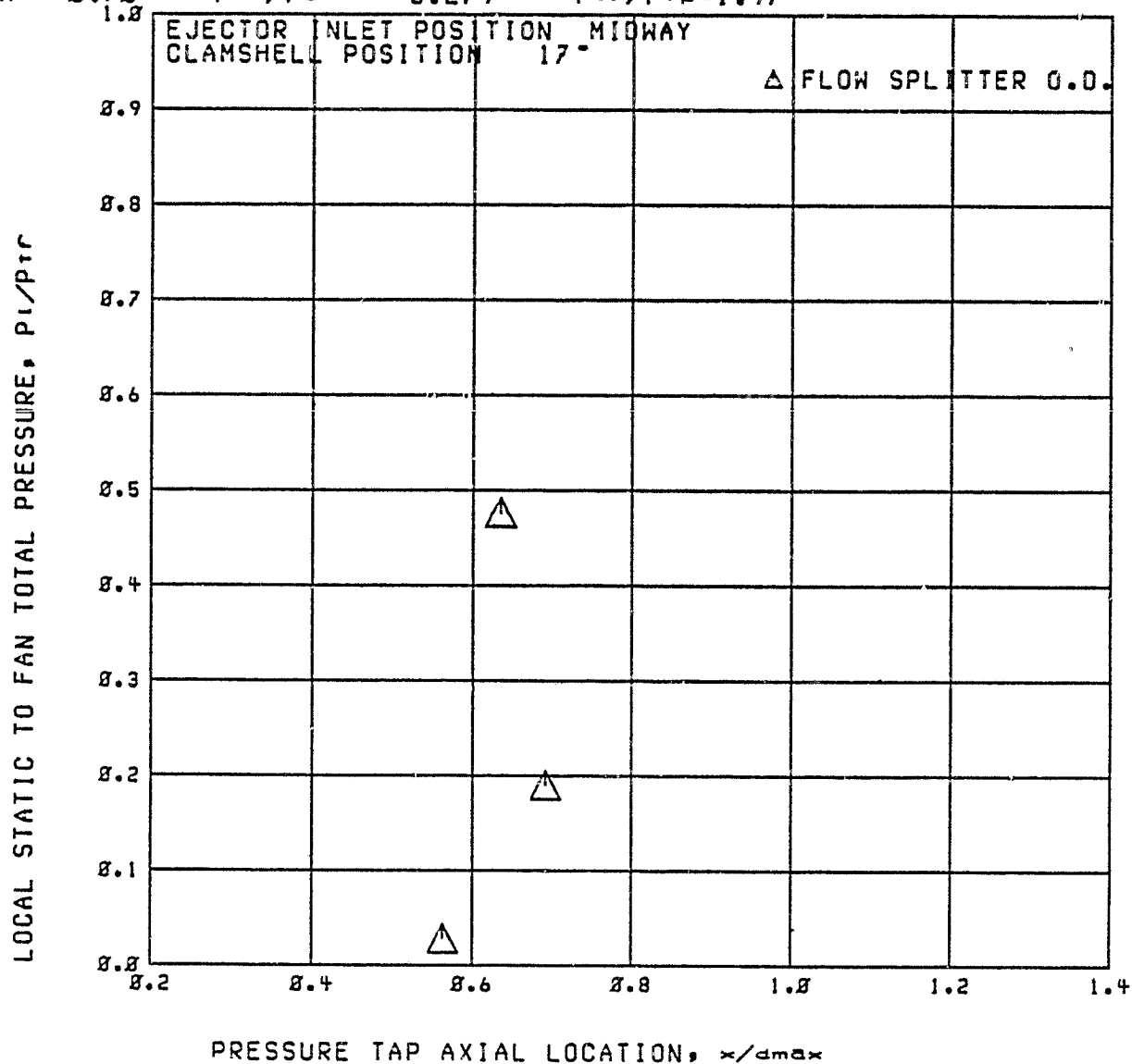
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.78$

$P_{tr}/P_0 =$

5.279

$P_{tr}/P_{tp} = 1.97$



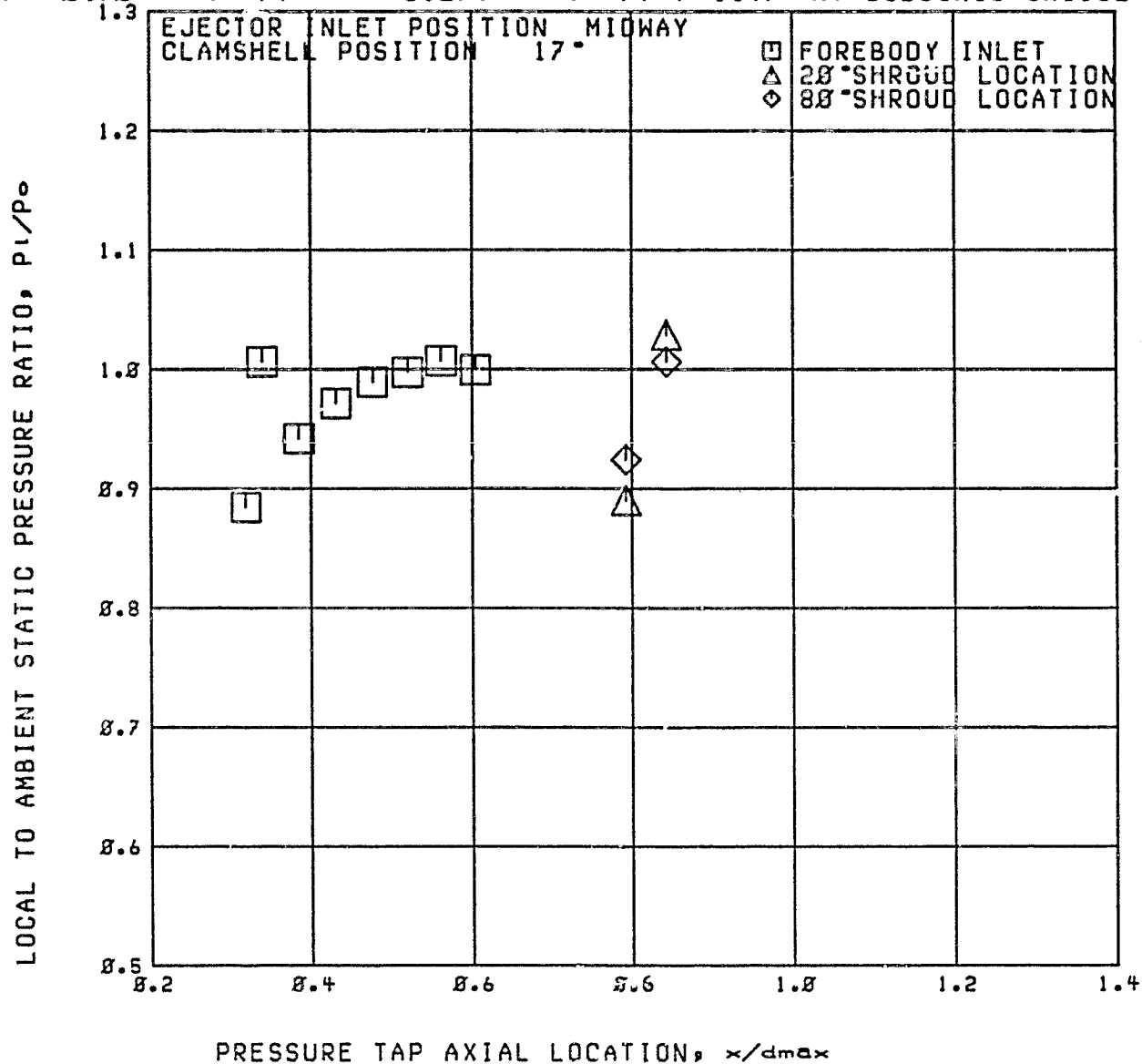
RUN 44

A2

RDG=2283

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.70$   $P_{tr}/P_o = 5.279$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



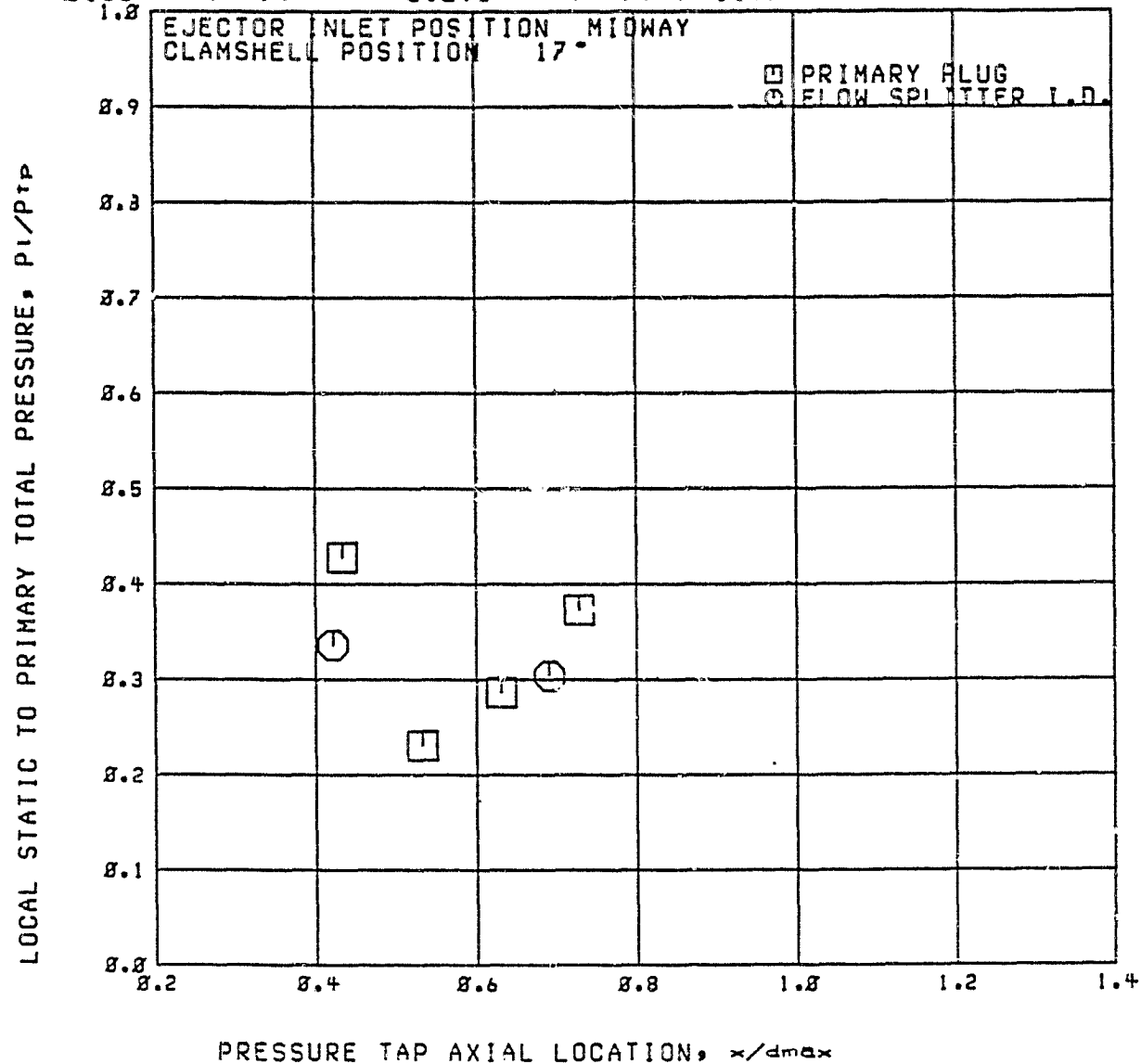
RUN 44

A2

RDG=2211

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.56$      $P_{tr}/P_0 = 5.298$      $P_{tr}/P_{tp} = 1.97$



RUN 44

A2

RDG=2211

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

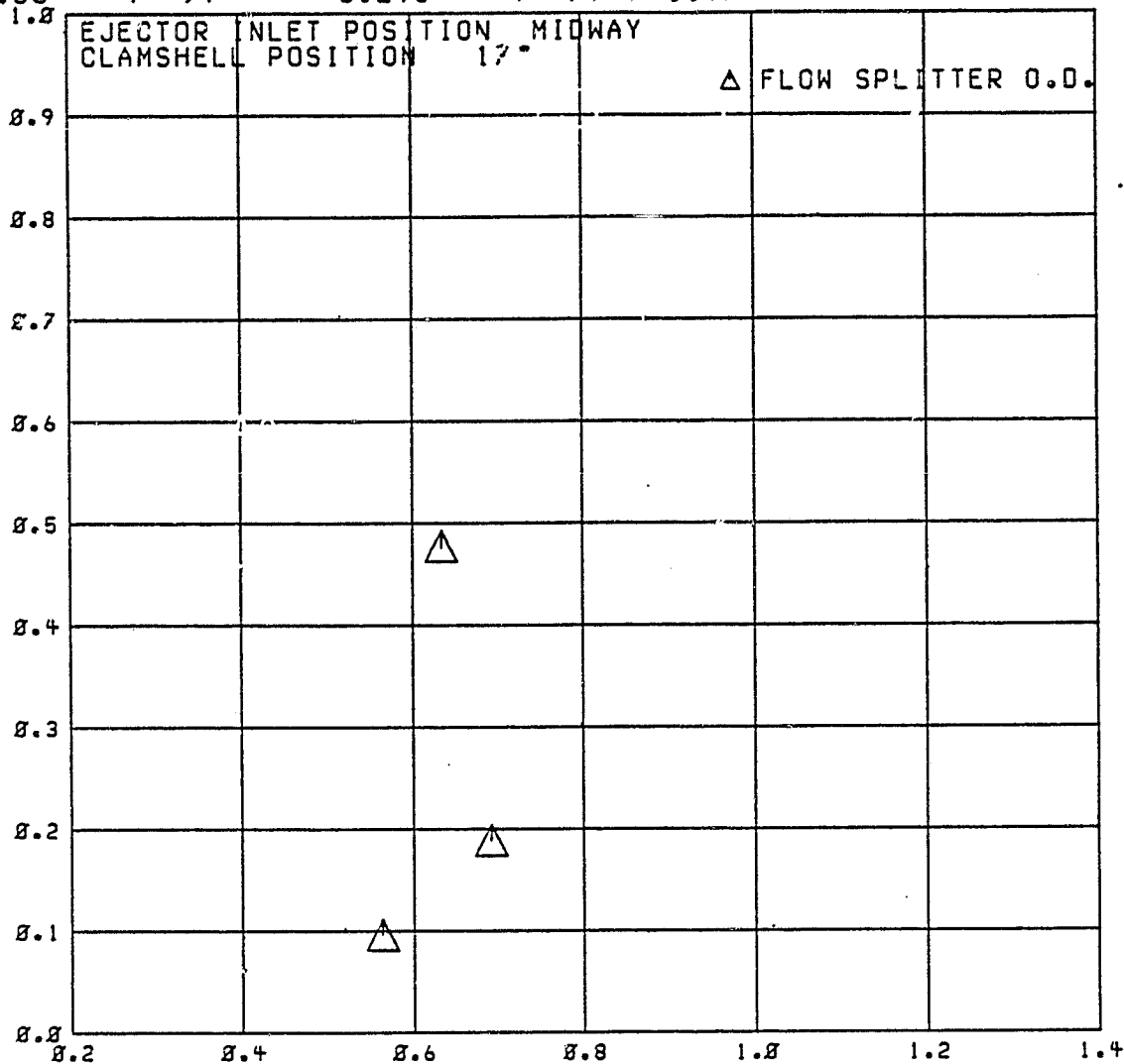
$M_0 = 0.56$

$P_{tr}/P_0 =$

5.298

$P_{tr}/P_{tp} = 1.97$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$



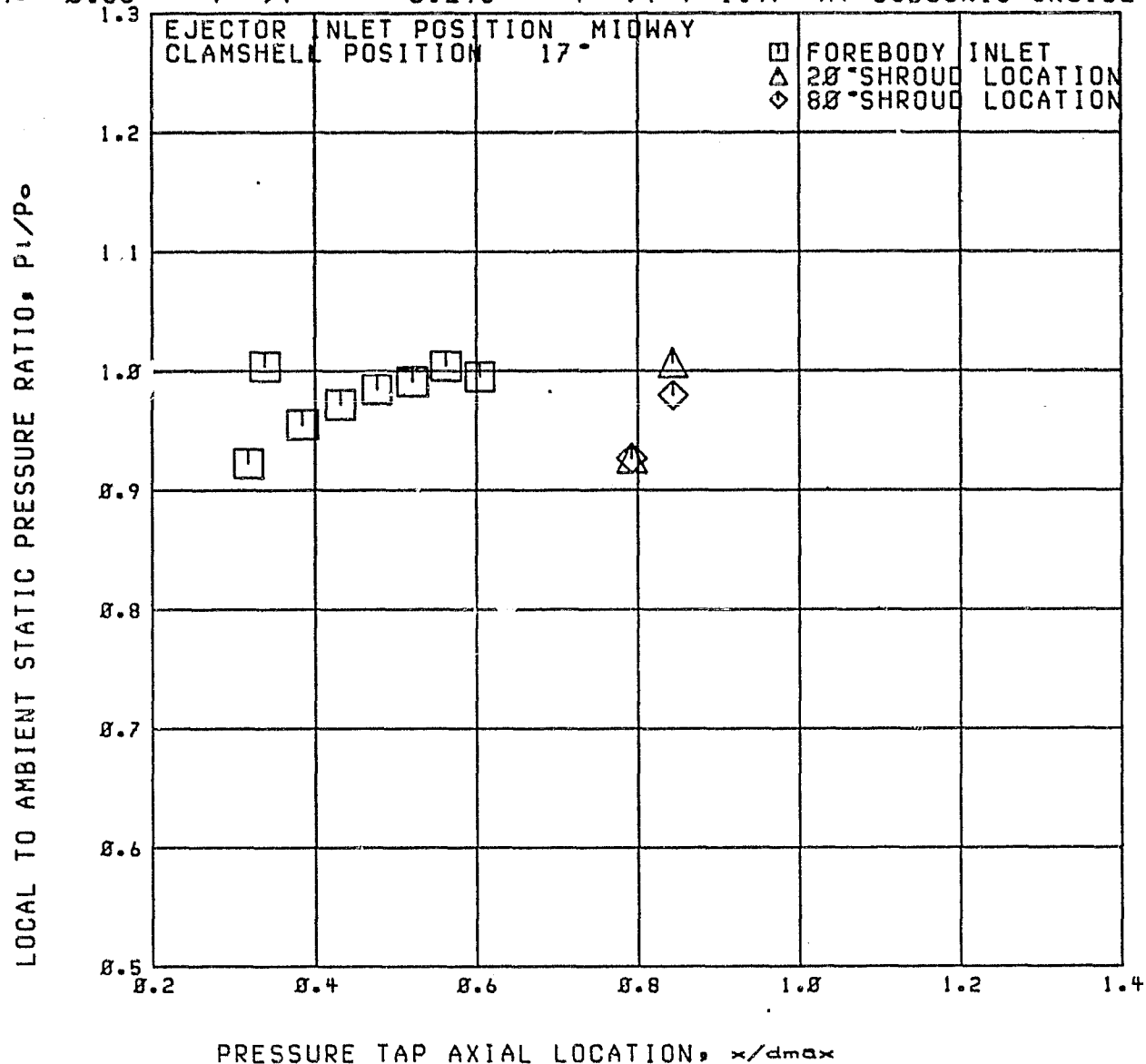
RUN 44

RDG=2211

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.56$   $P_{tr}/P_o = 5.298$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



RUN 44

A2

RDG=2216

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

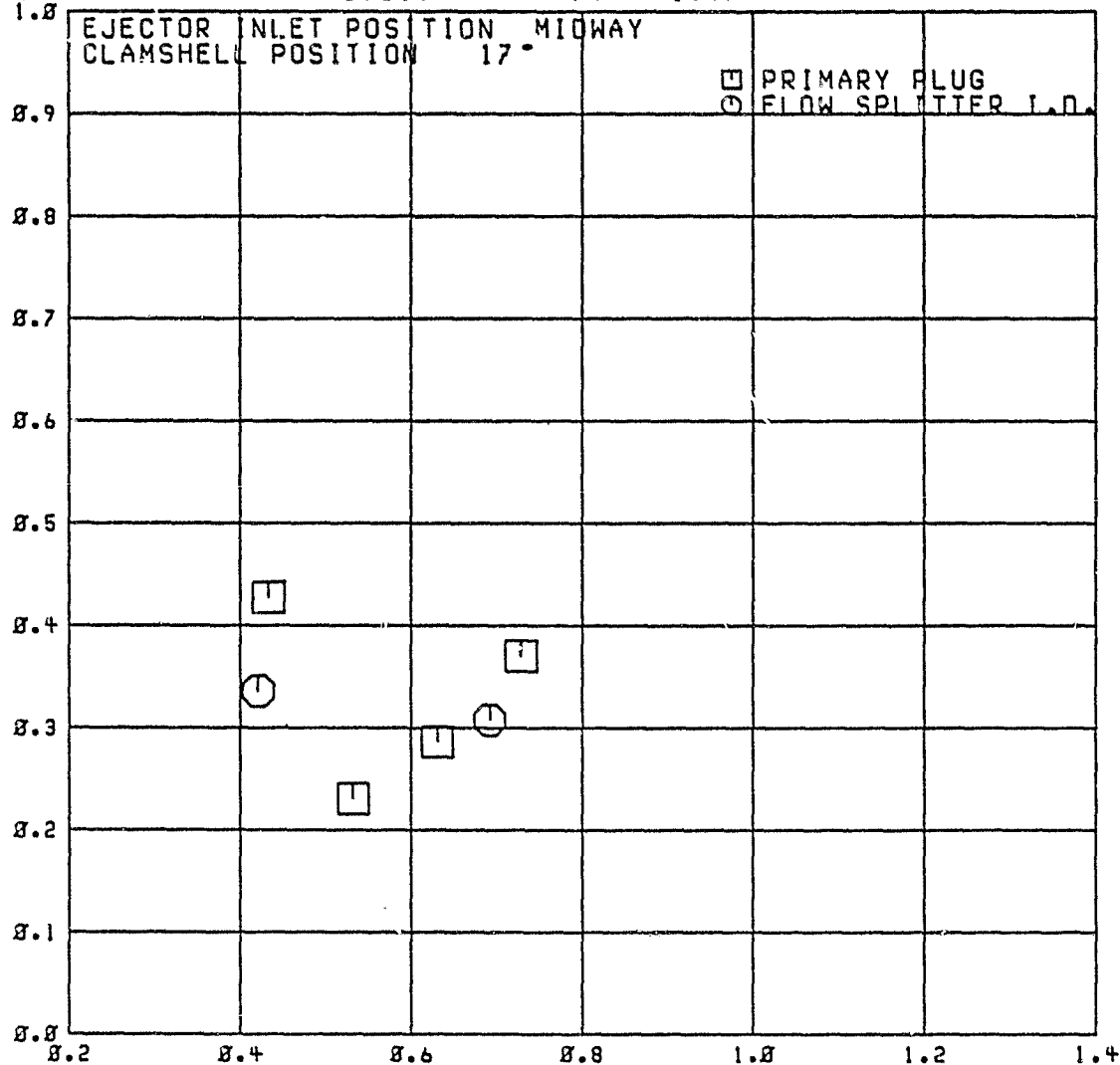
$M_0 = 0.36$

$P_{tr}/P_0 =$

5.318

$P_{tr}/P_{tp} = 1.97$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

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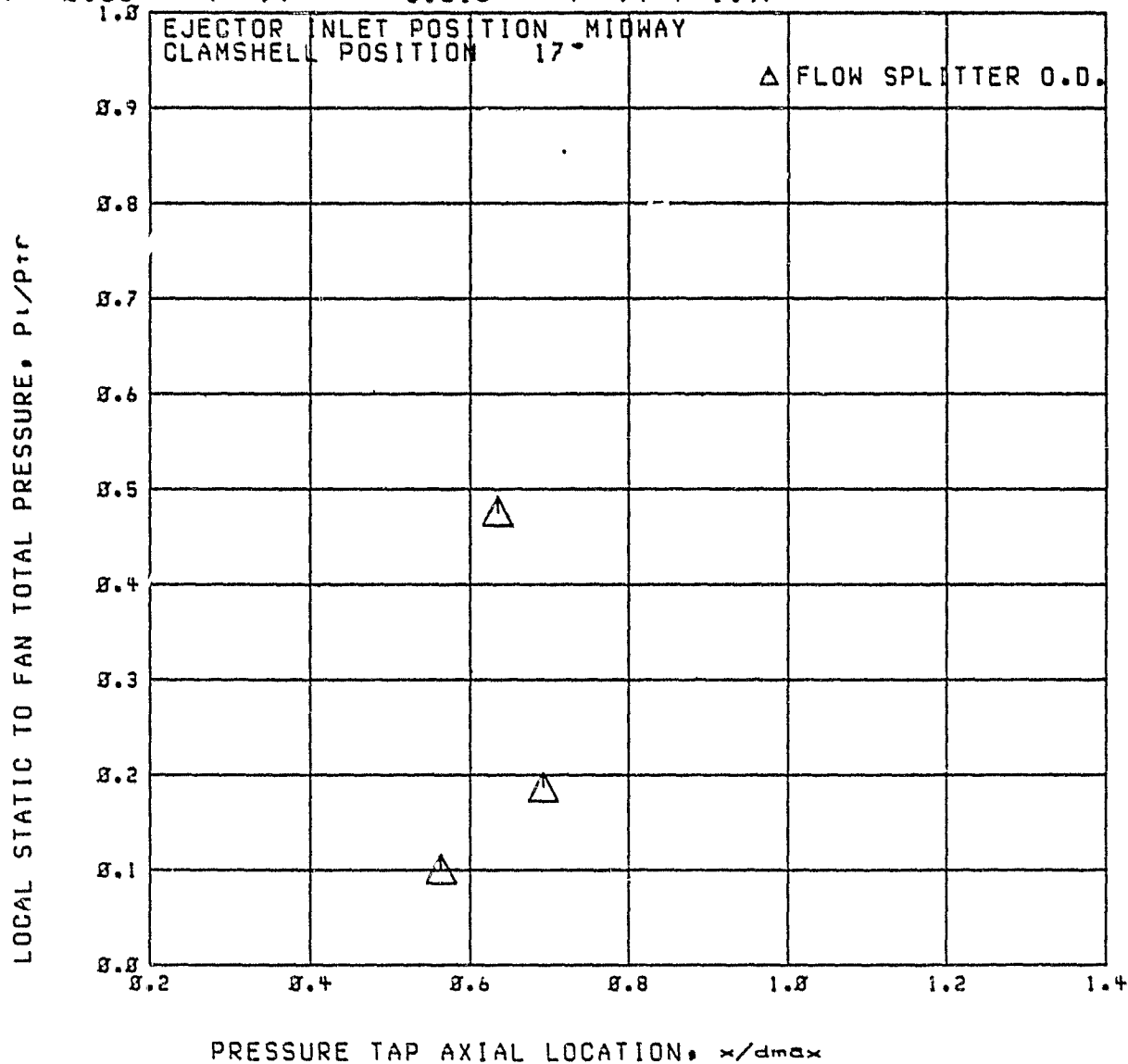
RUN 44

A2

RDG=2216

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.36$   $P_{tr}/P_{0e} = 5.318$   $P_{tr}/P_{tp} = 1.97$



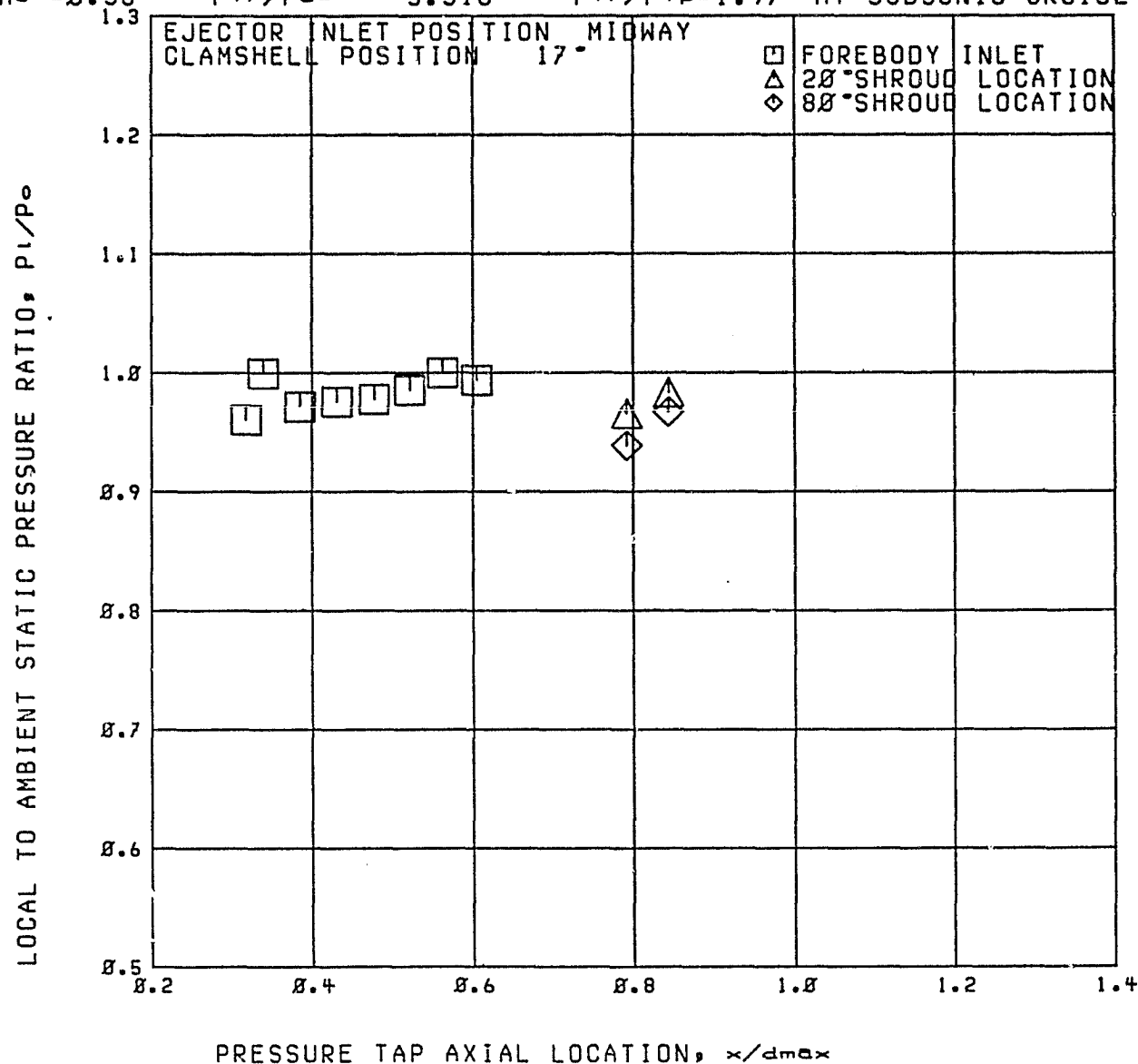
RUN 44

RDG=2216

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.36$   $P_{tr}/P_0 = 5.318$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



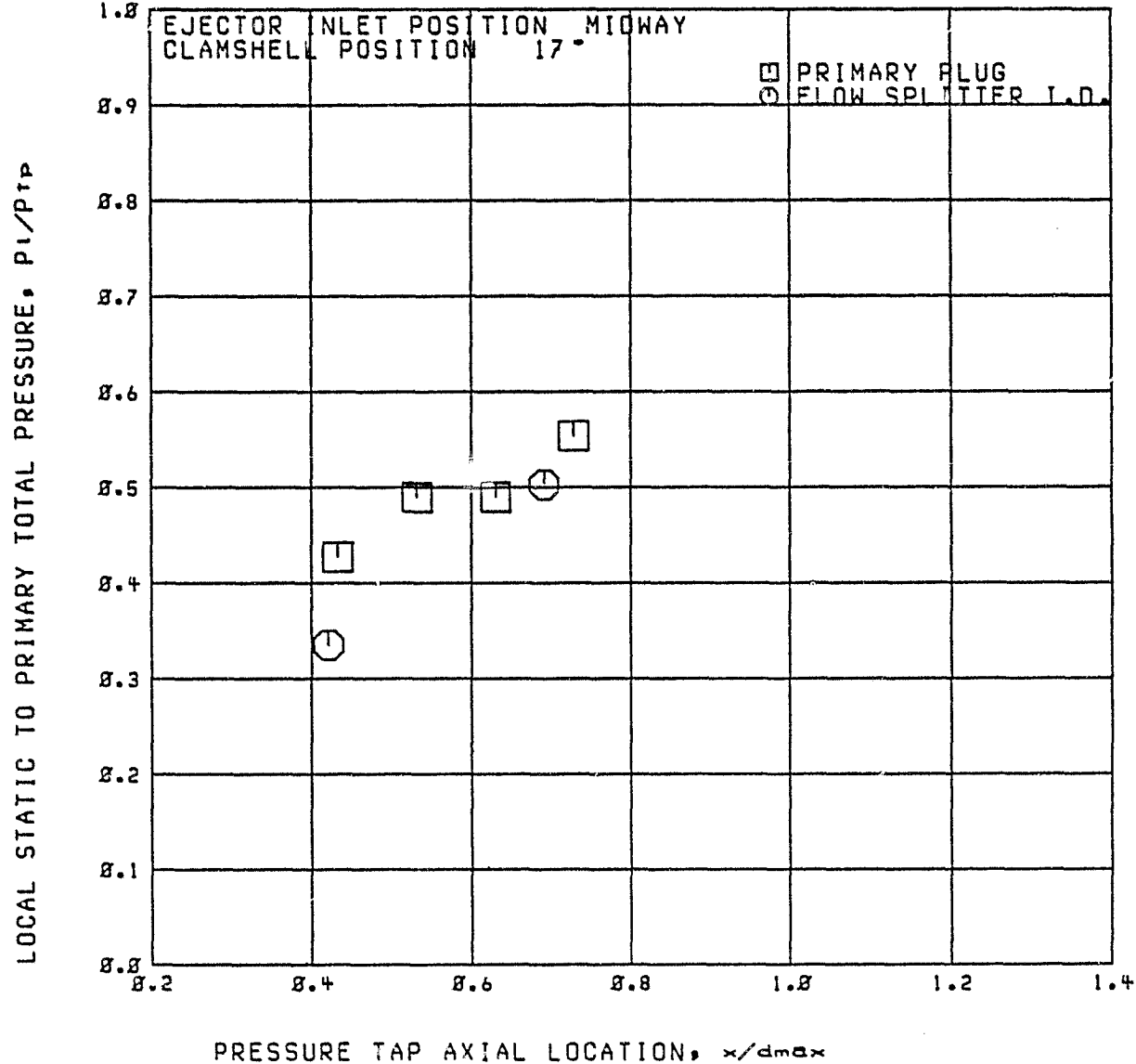
RUN 44

A2

RDG=2219

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.03$   $P_{tr}/P_{0e} = 3.537$   $P_{tr}/P_{tr} = 1.97$



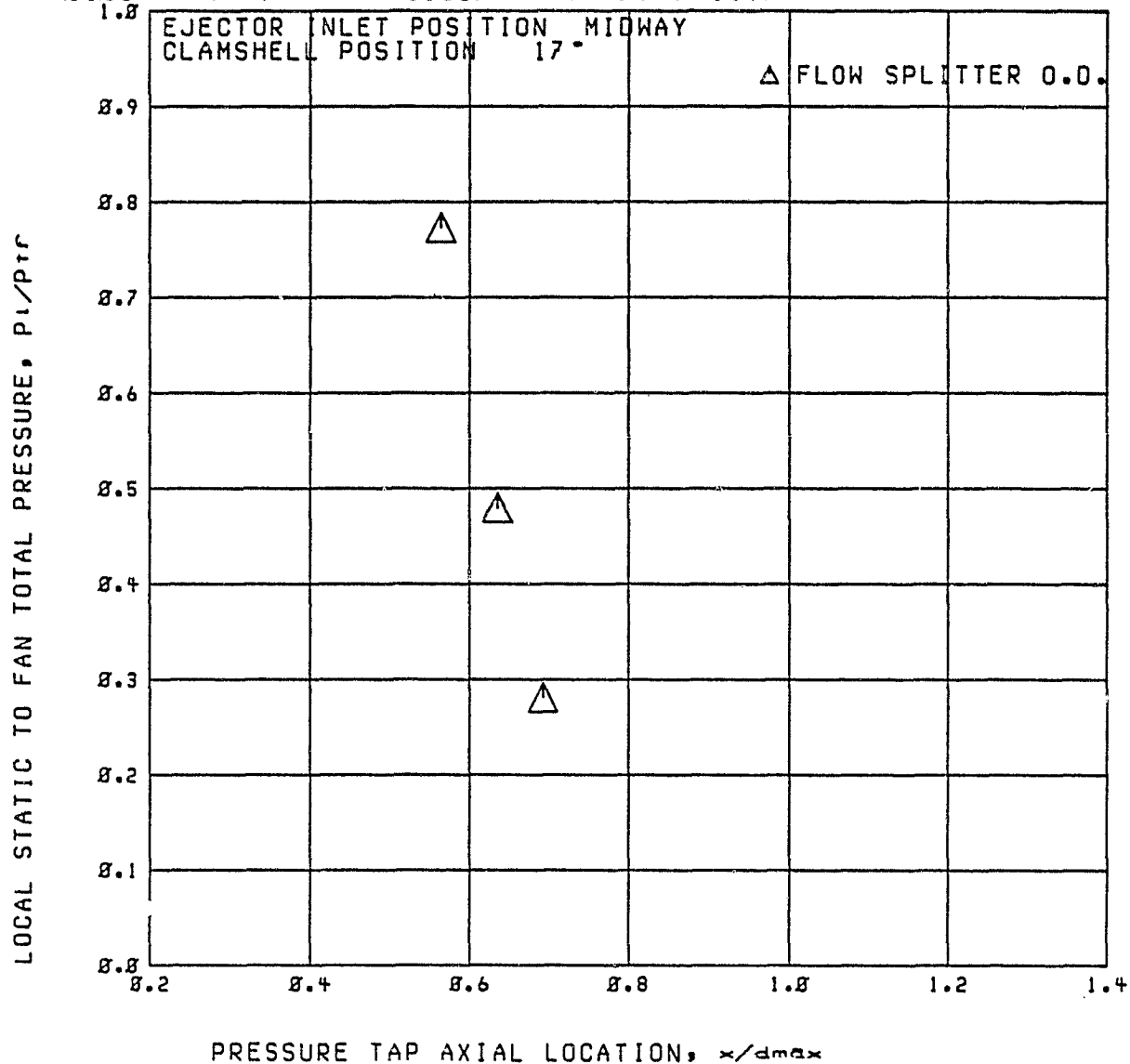
RUN 44

A2

RDG=2219

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.83$   $P_{tr}/P_0 = 3.537$   $P_{tr}/P_{tp} = 1.97$



RUN 44

RDG=2219

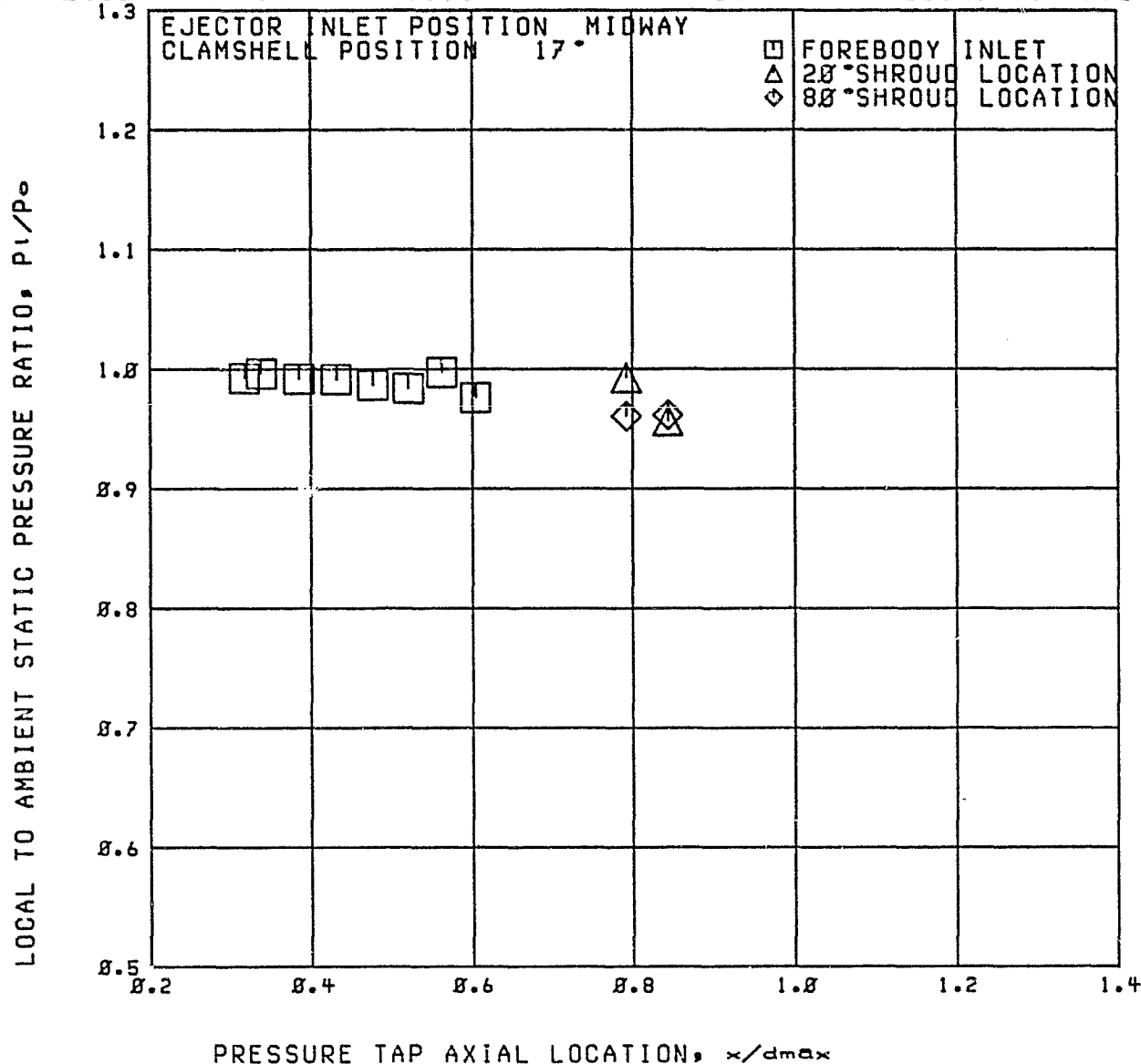
A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.83$

$P_{tr}/P_o = 3.537$

$P_{tr}/P_{tr} = 1.97$  AT SUBSONIC CRUISE



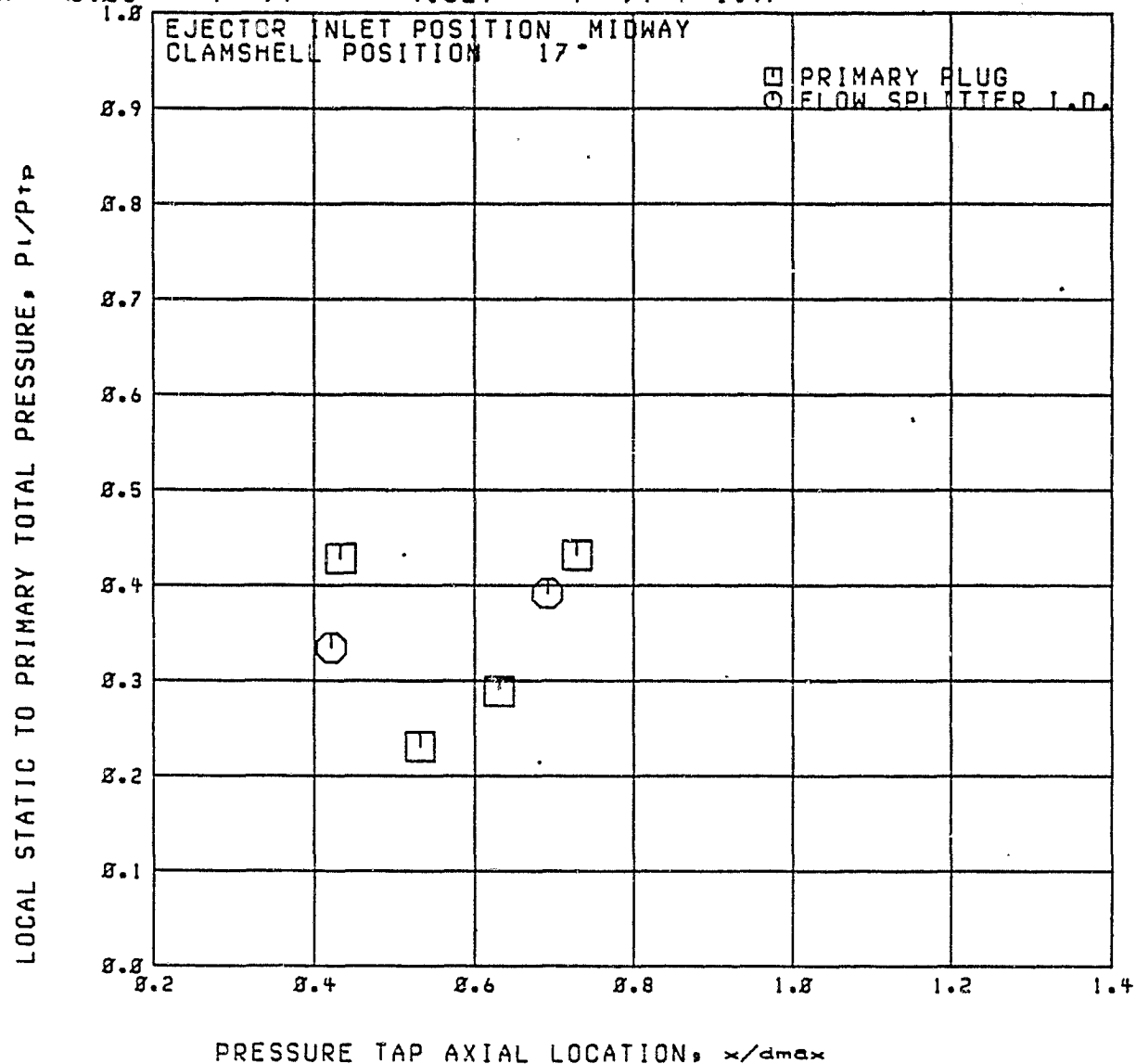
RUN 44

A2

RDG=2228

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.03$   $P_{tr}/P_0 = 4.529$   $P_{tr}/P_{tp} = 1.97$





RUN 44

A2

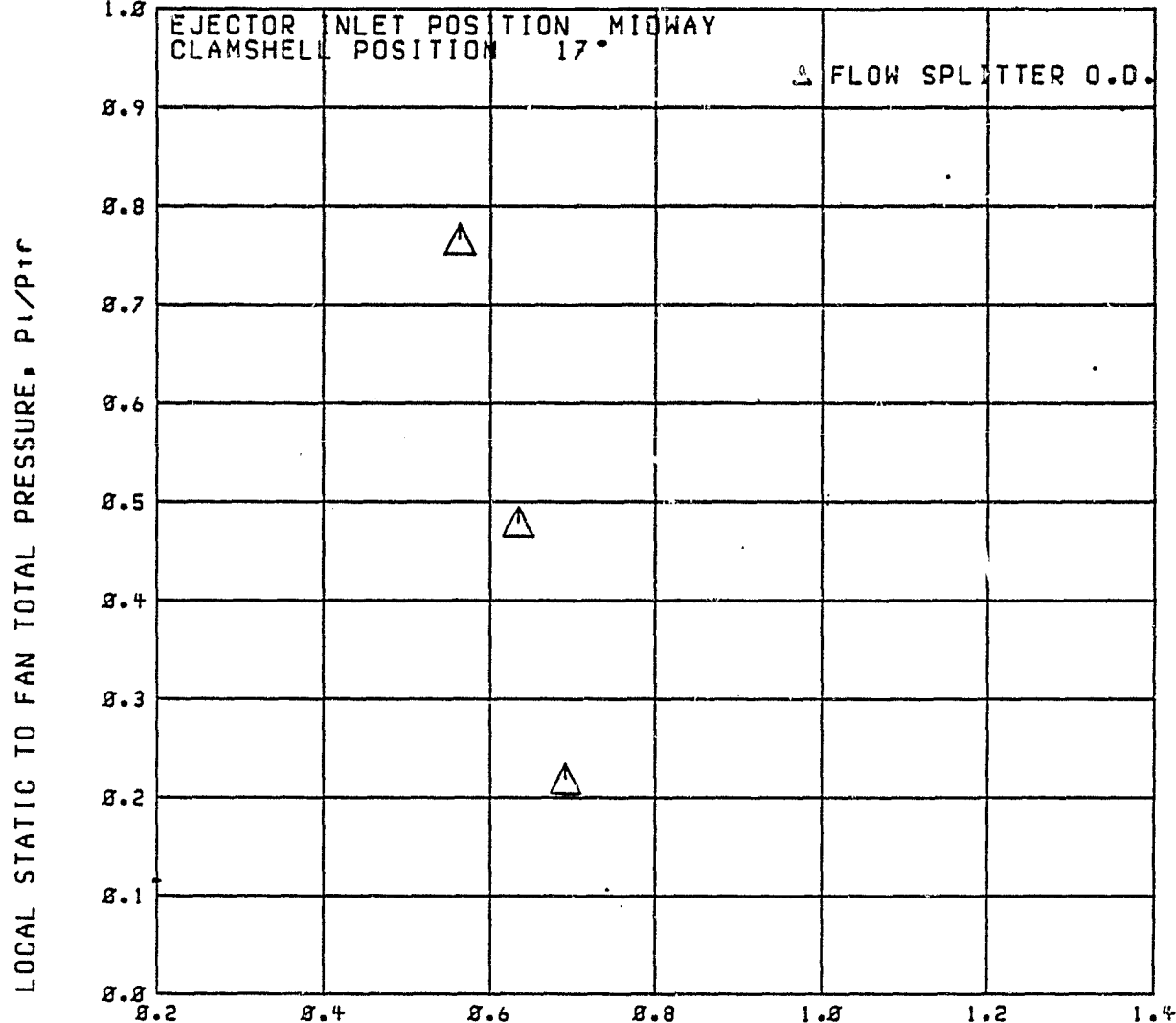
RDG=2228

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.83$

$P_{tr}/P_0 = 4.529$

$P_{tr}/P_{tp} = 1.97$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

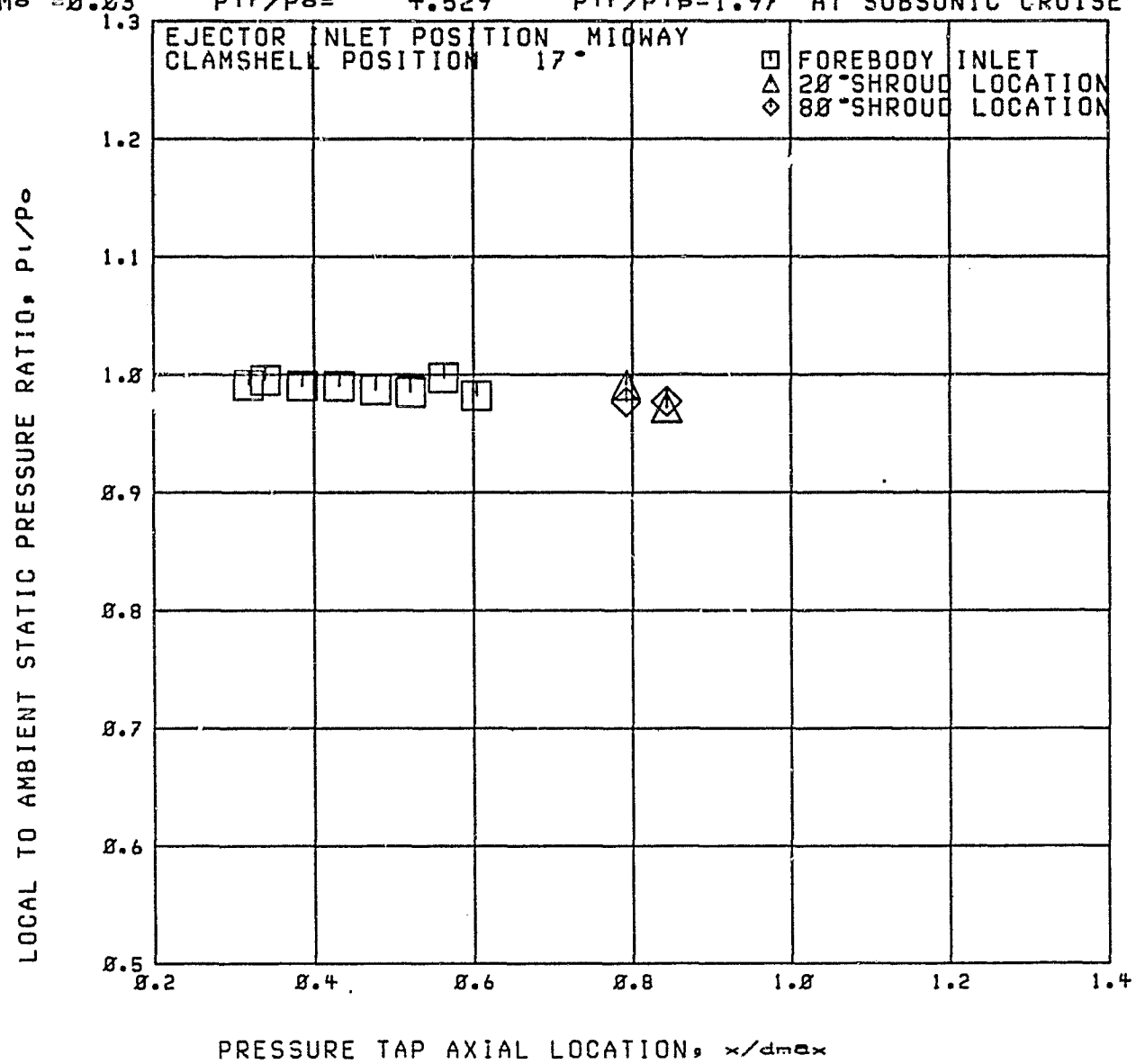
RUN 44

RDG=2228

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.83$      $P_{tr}/P_o = 4.529$      $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



RUN 44

A2

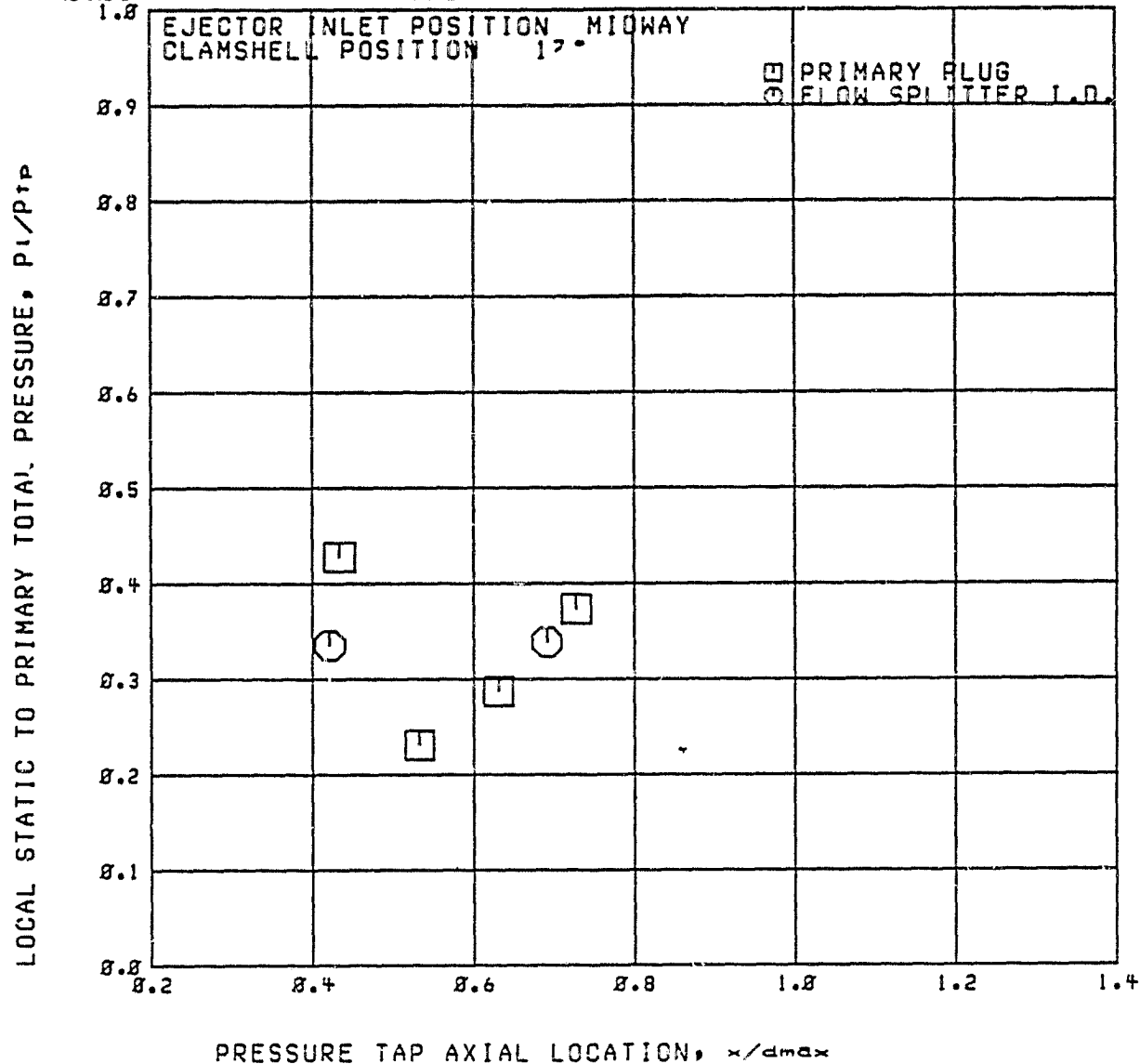
RDG=2221

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.85$

$P_{tr}/P_0 = 5.285$

$P_{tr}/P_{tp} = 1.98$



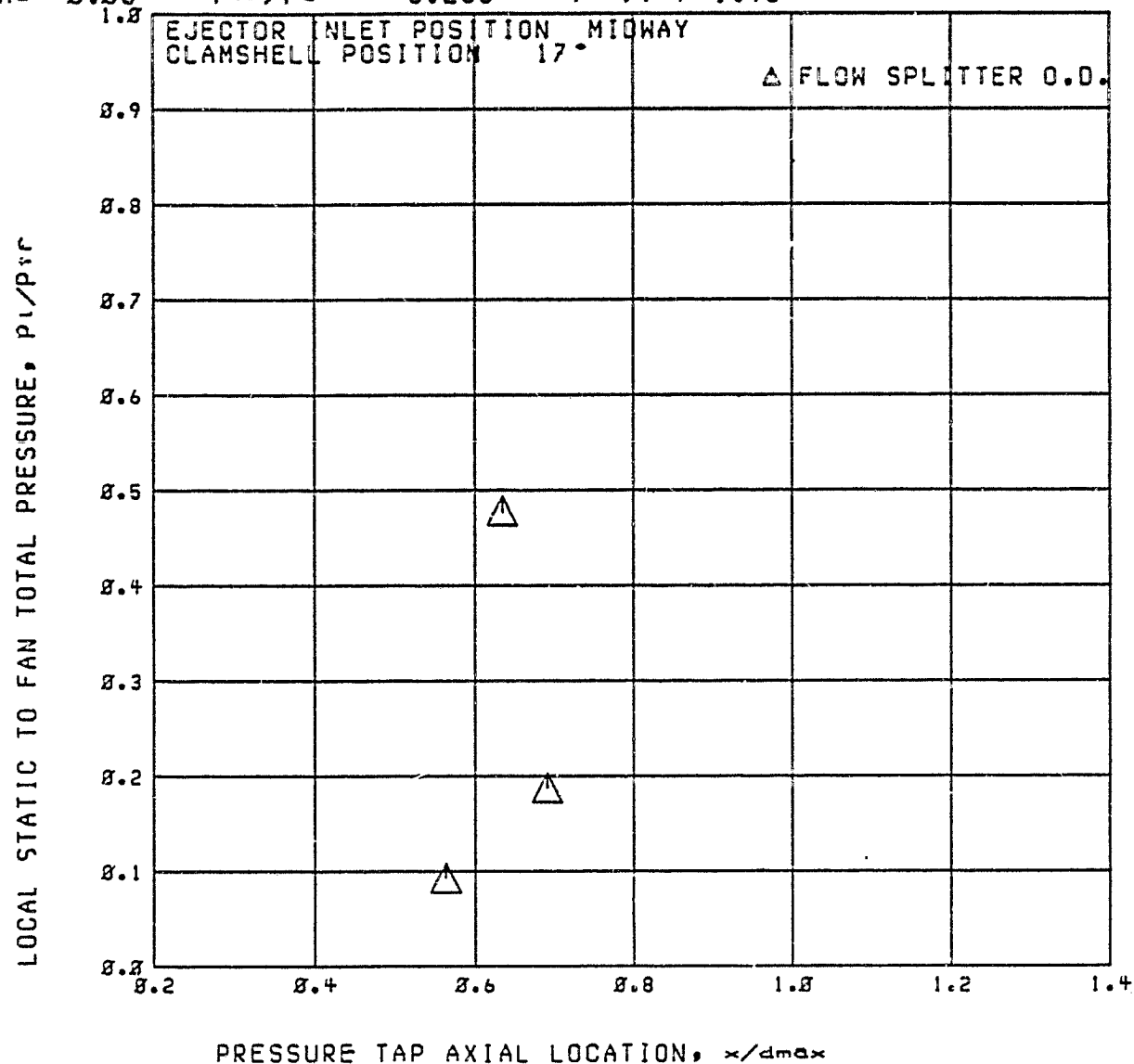
Run 44

A2

RDG=2221

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.85$   $P_{tr}/P_0 = 5.285$   $P_{tr}/P_{tp} = 1.98$



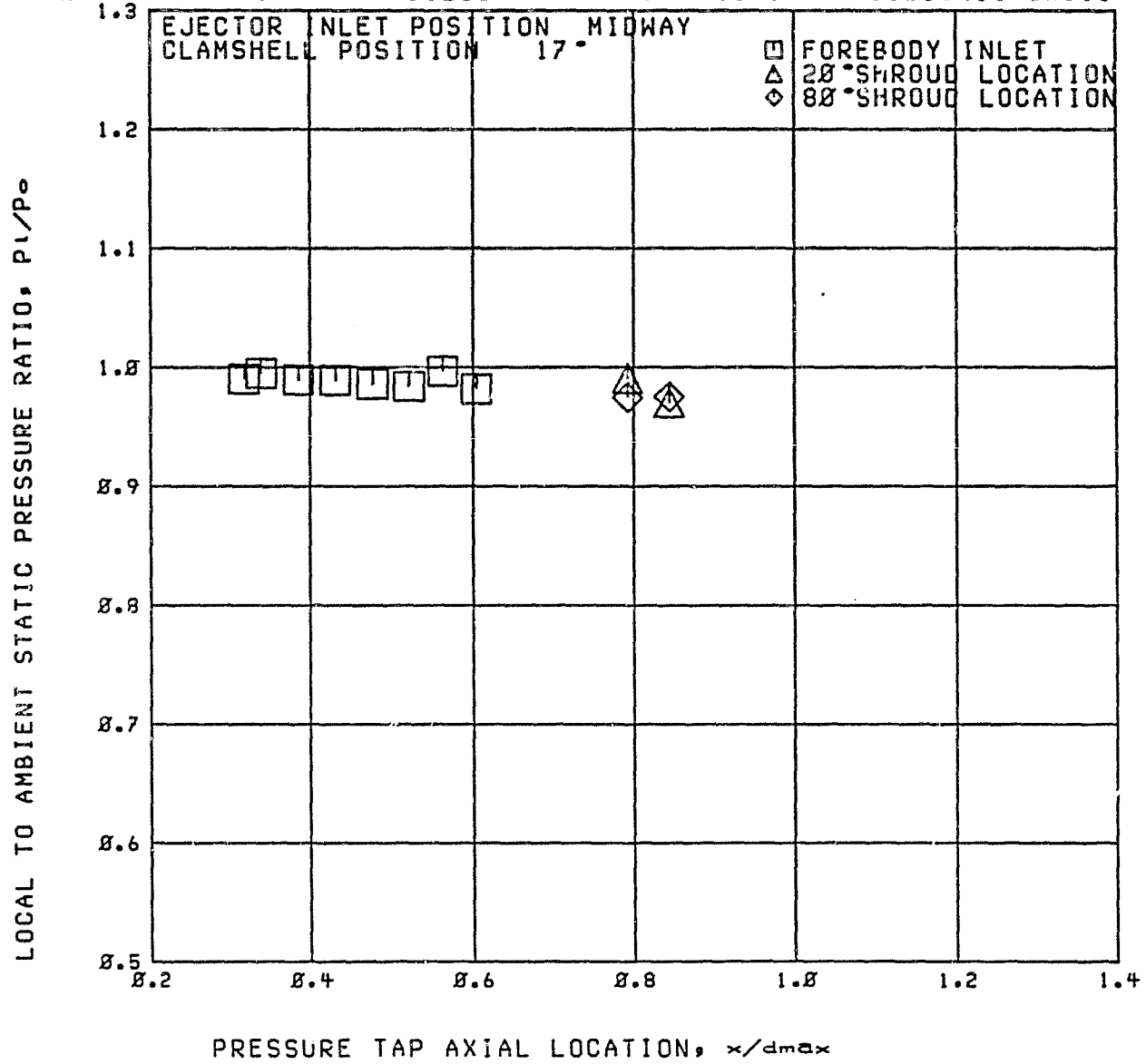
RUN 44

A2

RDG=2221

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.05$   $P_{tr}/P_0 = 5.285$   $P_{tr}/P_{tp} = 1.98$  AT SUBSONIC CRUISE



RUN 44

A2

ROG=2222

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

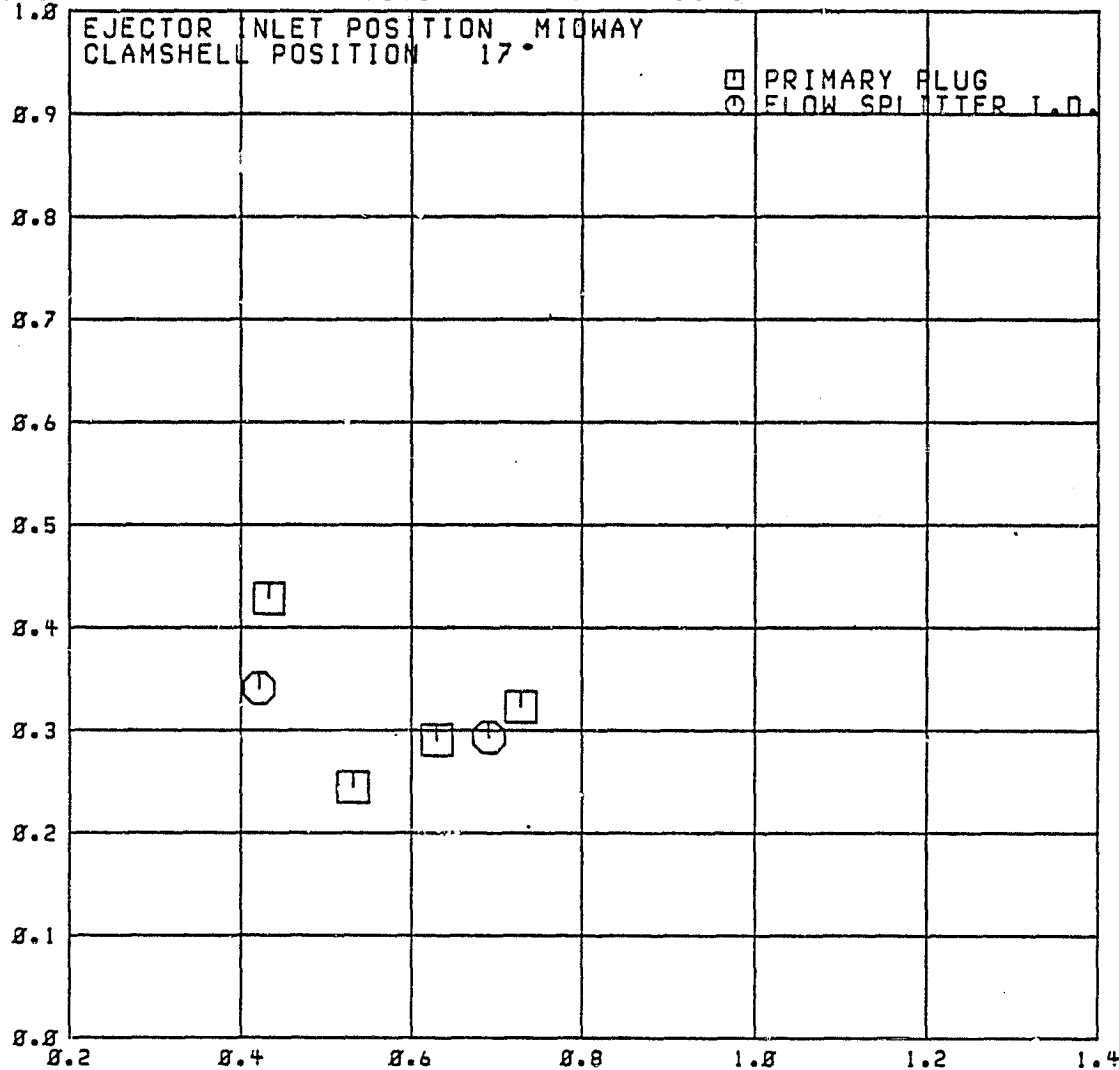
$M_0 = 0.85$

$P_{tr}/P_0 = 6.835$

$P_{tr}/P_{tp} = 1.96$

1.8

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

RUN 44

A2

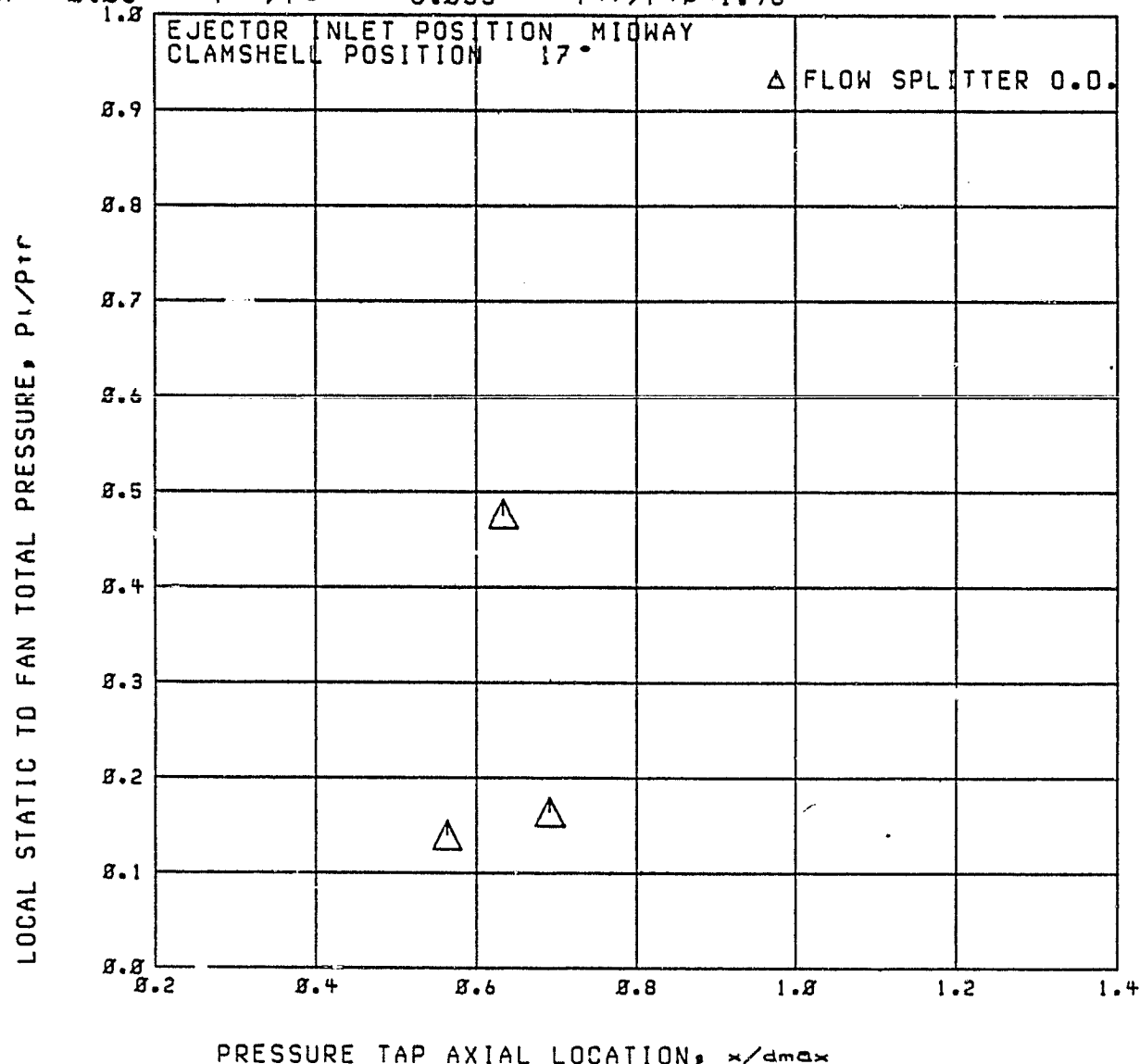
RDG=2222

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.05$

$P_{tr}/P_o = 6.035$

$P_{tr}/P_{tp} = 1.96$



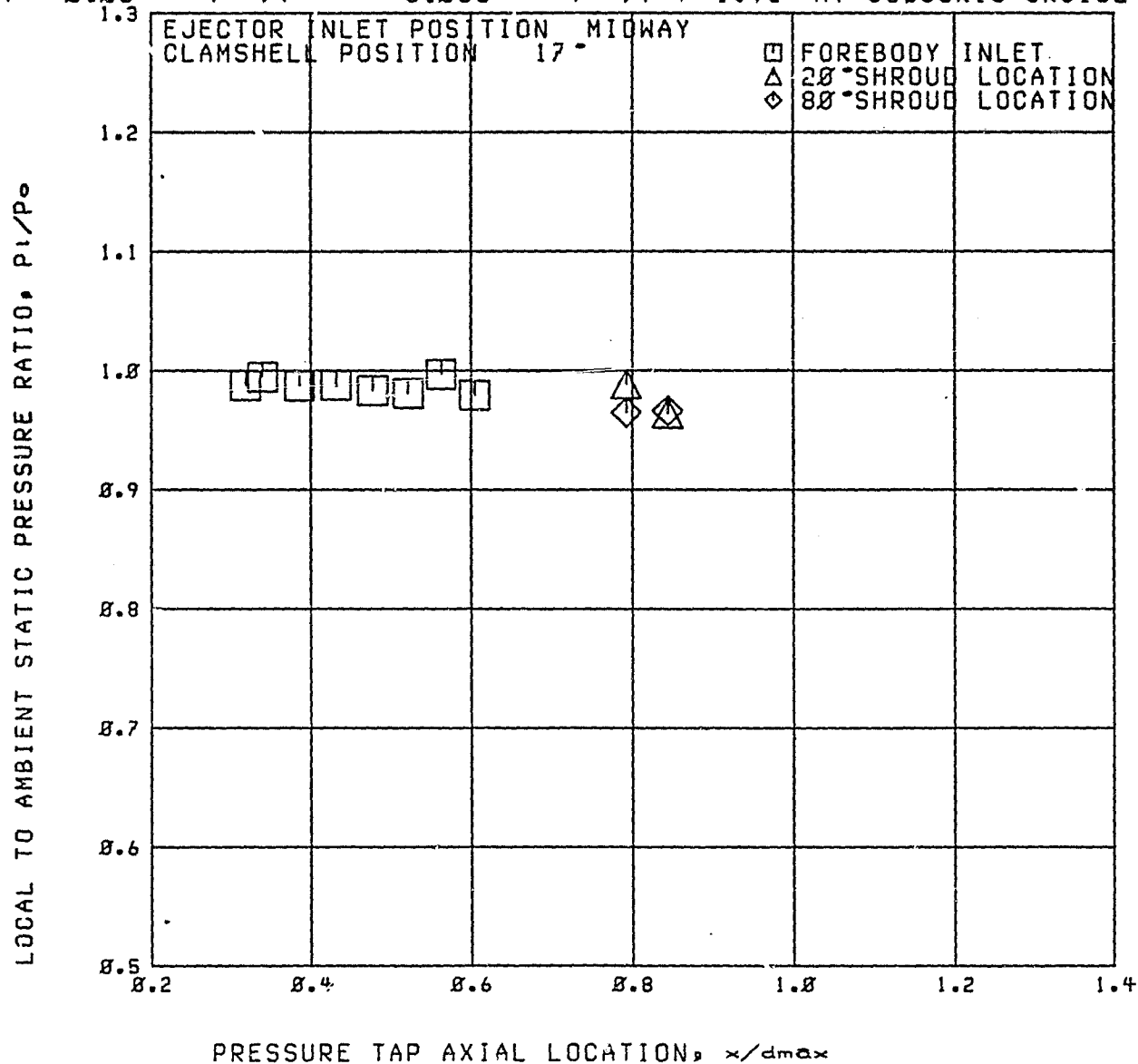
Run 44

RDG=2222

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.05$   $P_{tr}/P_o = 6.035$   $P_{tr}/P_{tp} = 1.96$  AT SUBSONIC CRUISE





RDC. 2771-2820

A2

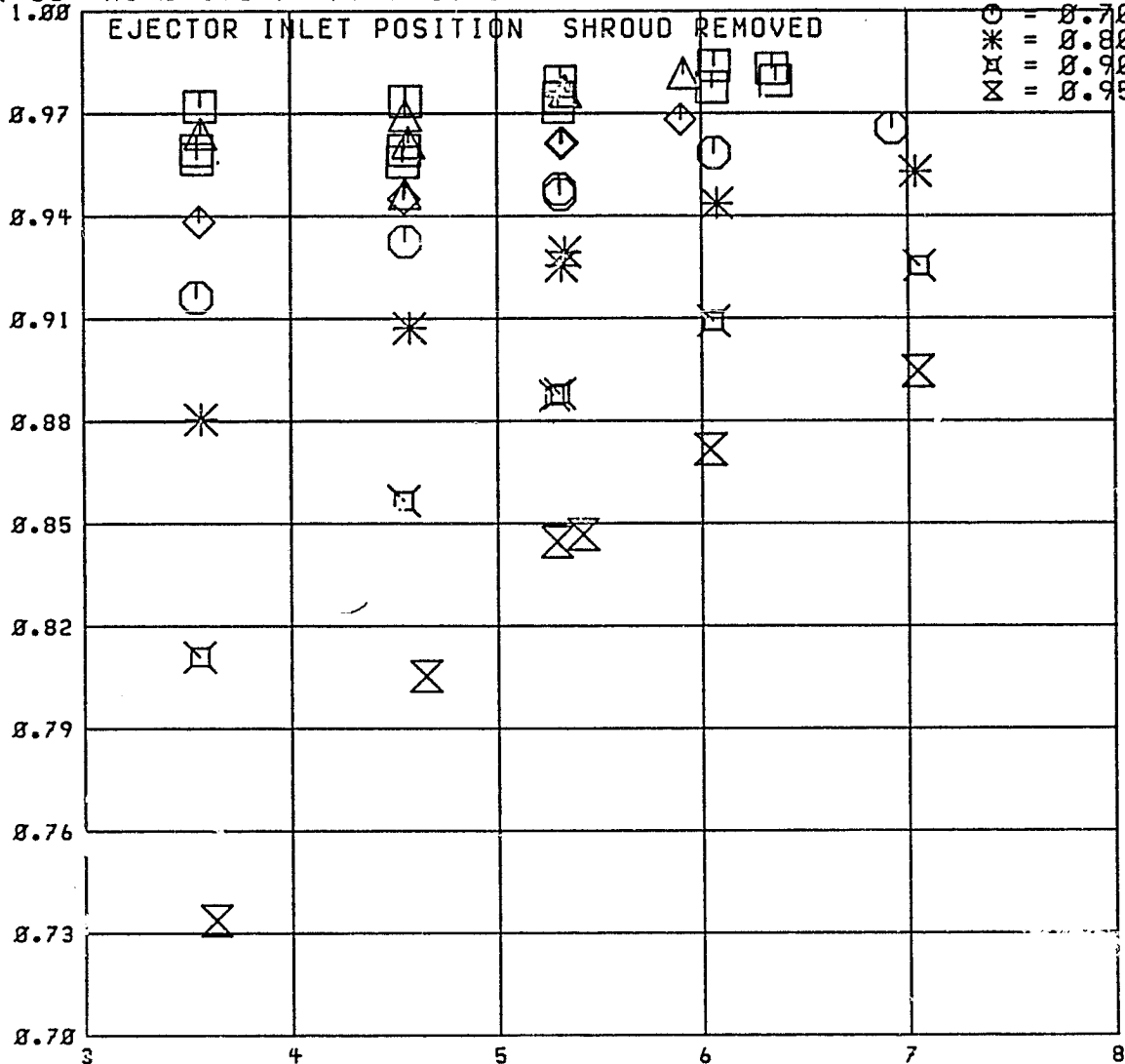
SUBSONIC CRUISE

RUN 63  $M_0 = 0.95$   $P_{tr}/P_{tp} = 1.96$

$M_0 =$

$\square = 0.8$   
 $\triangle = 0.836$   
 $\diamond = 0.856$   
 $\circ = 0.870$   
 $*$  = 0.880  
 $\times$  = 0.890  
 $\otimes$  = 0.95

NOZZLE GROSS THRUST COEFFICIENT,  $CFP_1$



FAN NOZZLE PRESSURE RATIO,  $P_{TF}/P_0$

ROC, 2771-2820

A2

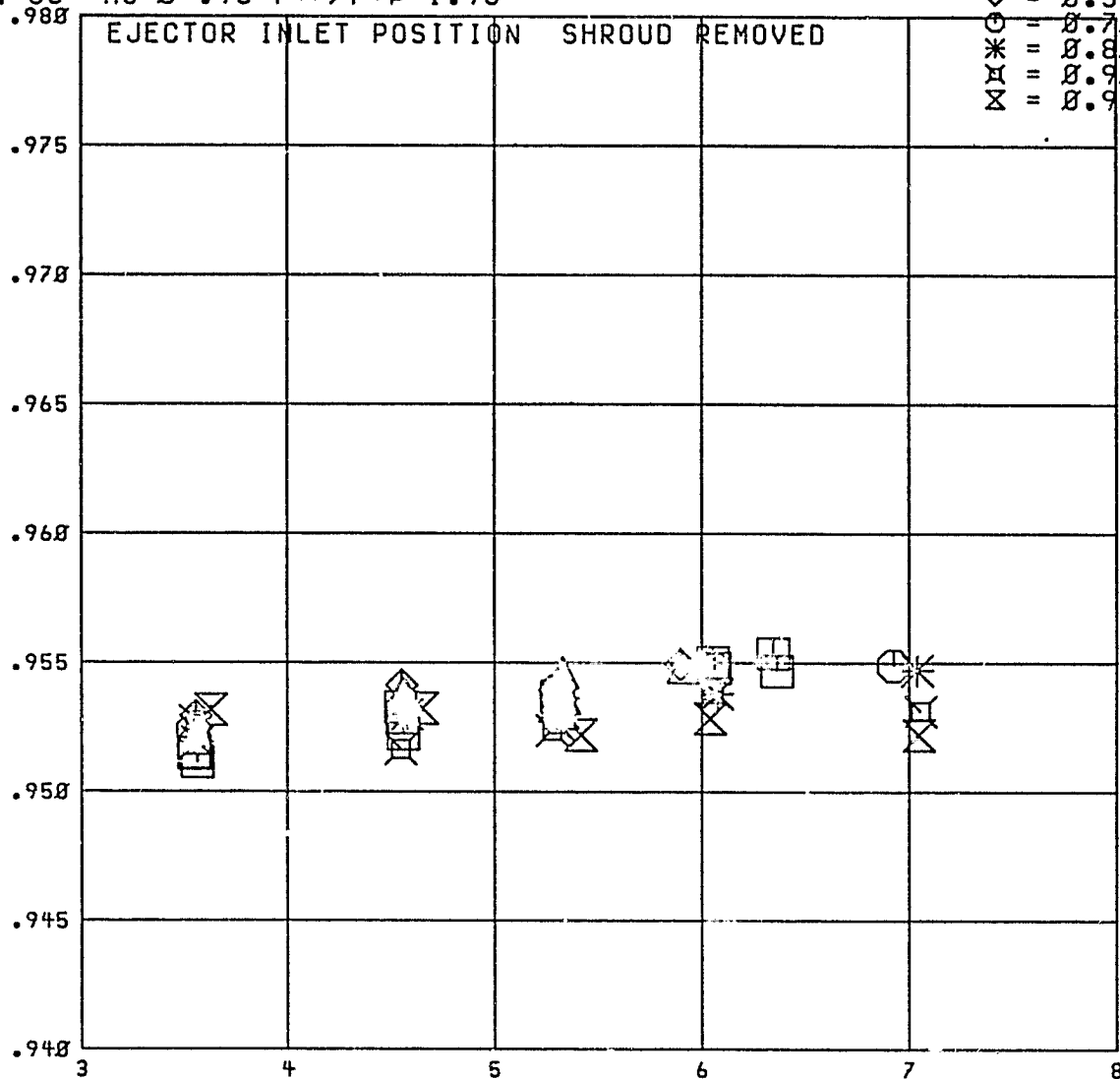
SUBSONIC CRUISE

$M_o =$

RUN 63  $M_o = 0.95$   $P_{tr}/P_{tp} = 1.96$

$\square = 0.8$   
 $\triangle = 0.36$   
 $\diamond = 0.56$   
 $\circ = 0.70$   
 $\times = 0.80$   
 $\star = 0.90$   
 $\otimes = 0.95$

FAN-NOZZLE FLOW COEFFICIENT, CDF



FAN NOZZLE PRESSURE RATIO,  $PTF/P_O$

R0G 2771-2820

A2

SUBSONIC CRUISE

M<sub>0</sub> =

RUN 63 M0=0.95 P<sub>tr</sub>/P<sub>tp</sub>=1.96

1.000

PRIMARY-NOZZLE FLOW COEFFICIENT, COP

EJECTOR INLET POSITION SHROUD REMOVED

□ = 0.0  
△ = 0.36  
◇ = 0.56  
○ = 0.70  
\* = 0.80  
x = 0.90  
x = 0.95

0.995

0.990

0.985

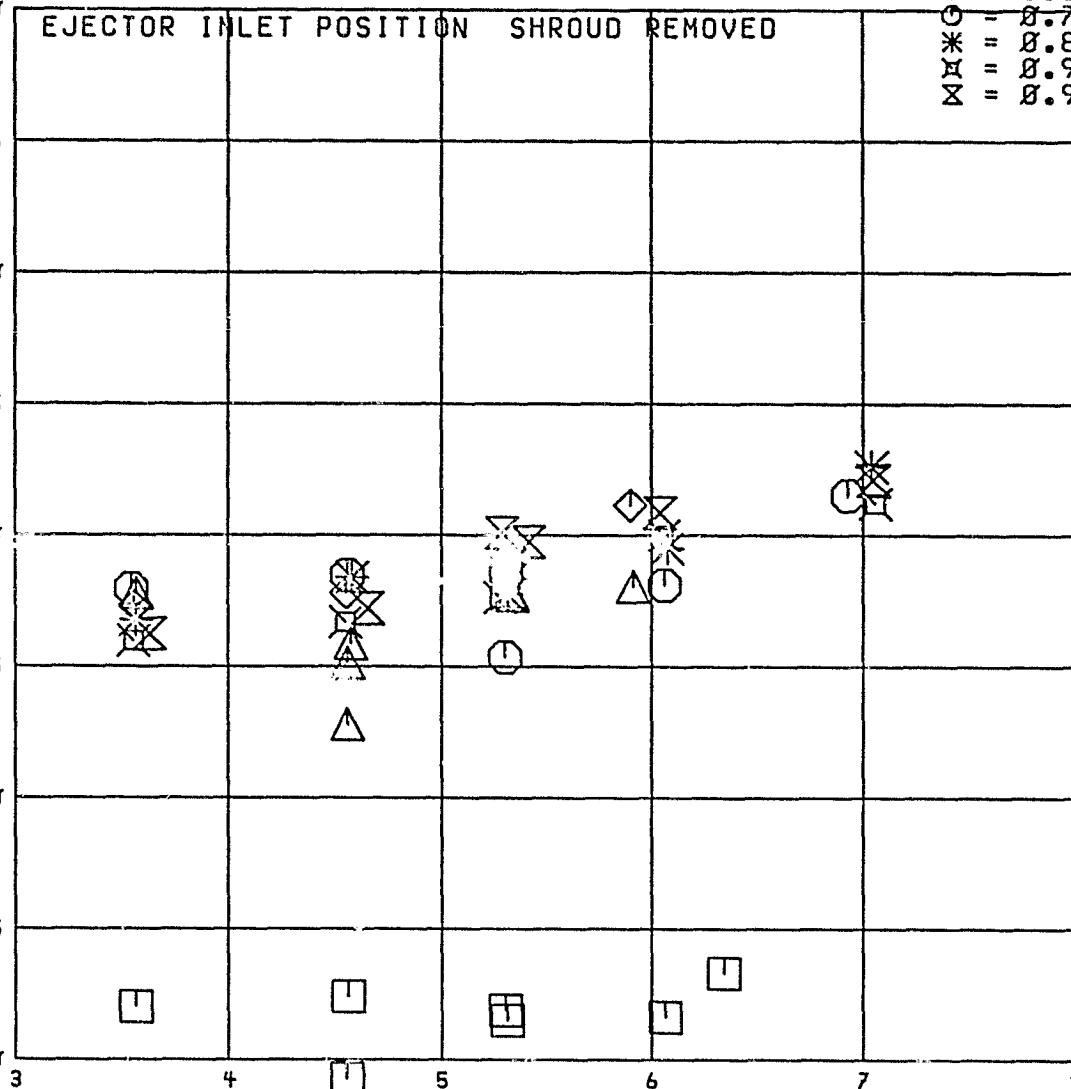
0.980

0.975

0.970

0.965

0.960



FAN NOZZLE PRESSURE RATIO, PTF/PO

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OF POOR QUALITY

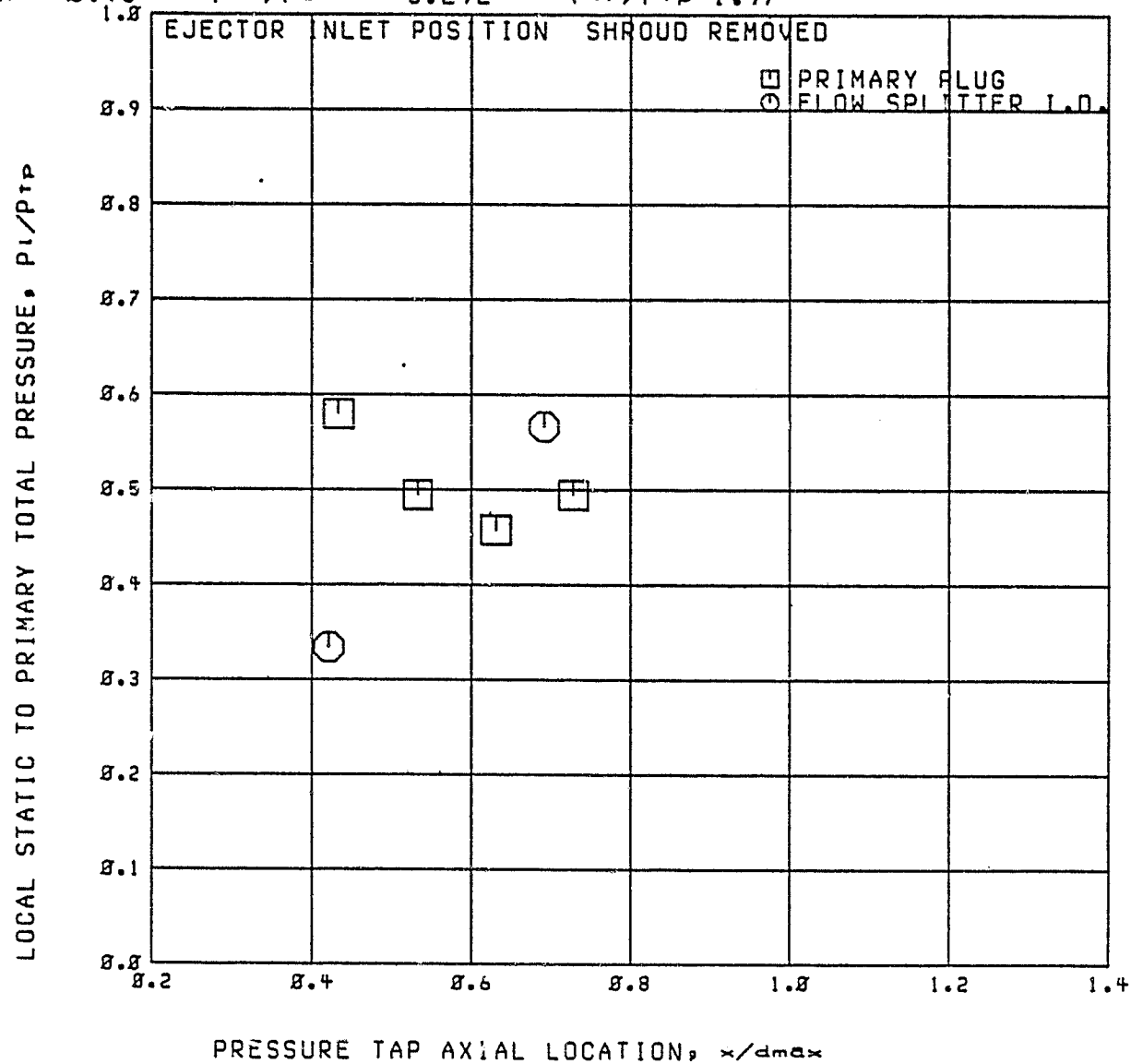
RUN 63

A2

RDG=2776

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.95$      $P_{tr}/P_0 = 5.292$      $P_{tr}/P_{tp} = 1.97$



RUN 63

A2

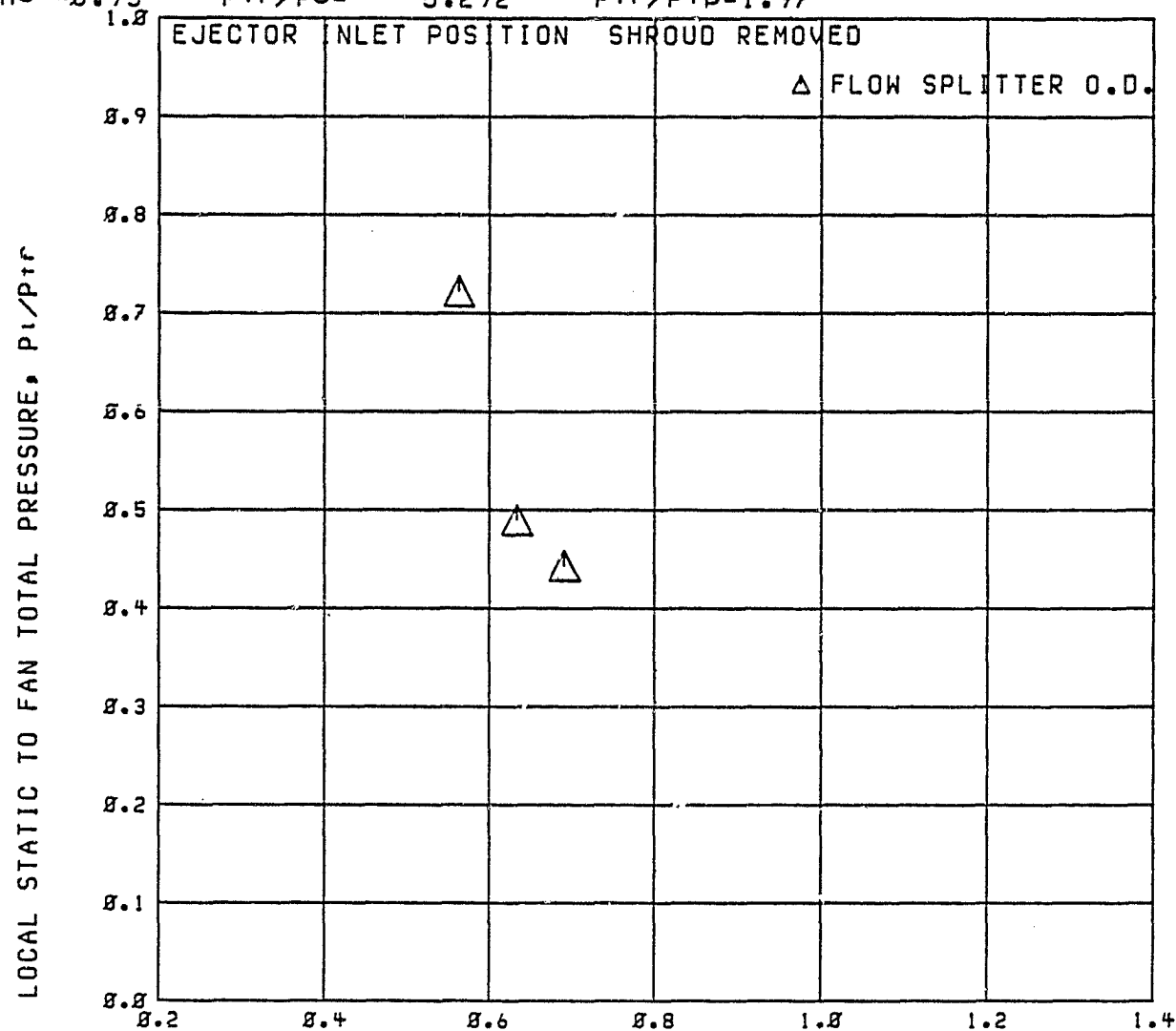
RDG=2776

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.95$

$P_{tr}/P_0 = 5.292$

$P_{tr}/P_{tp} = 1.97$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

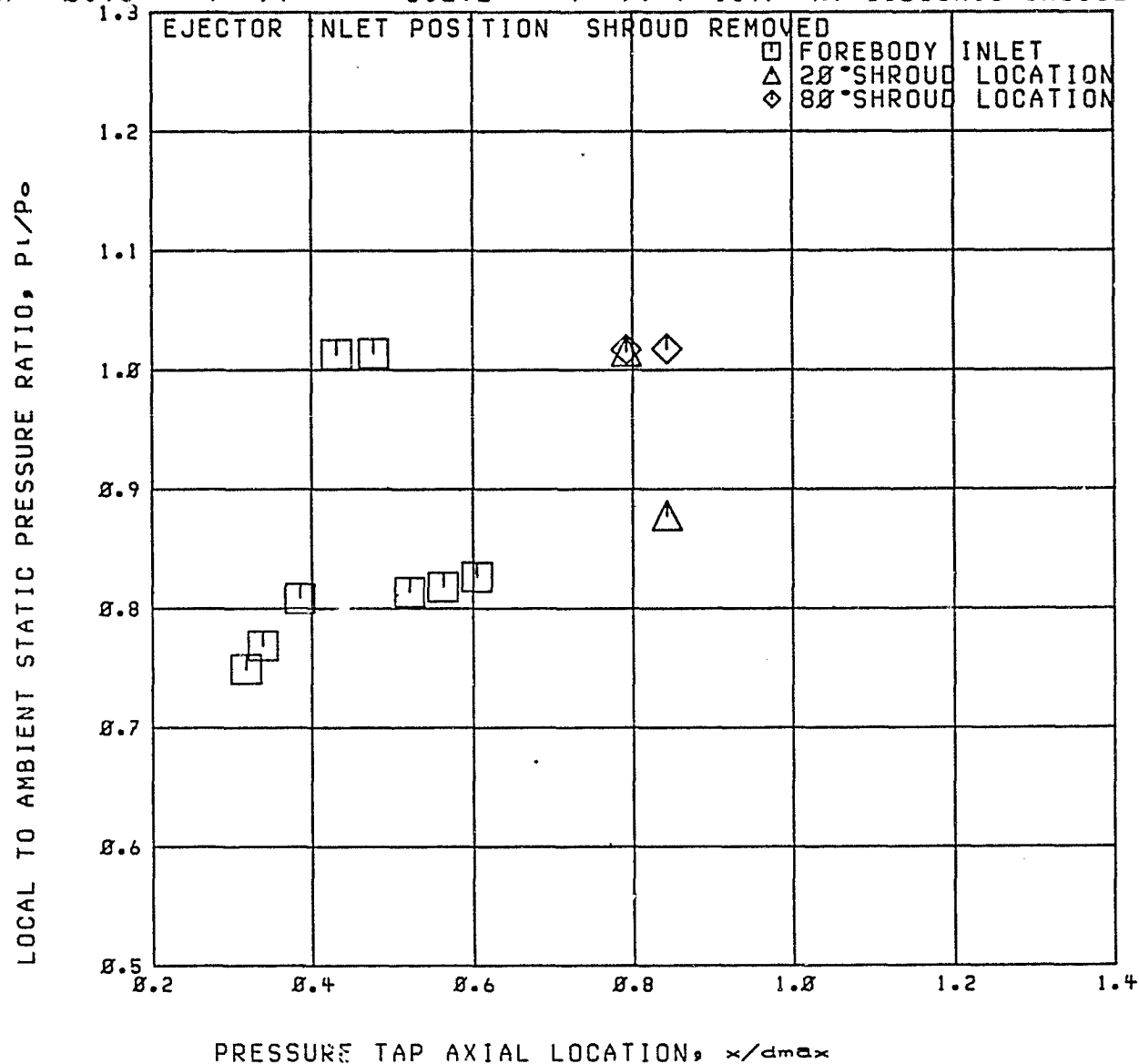
RUN 63

A2

RDG=2776

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.95$      $P_{tr}/P_o = 5.292$      $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



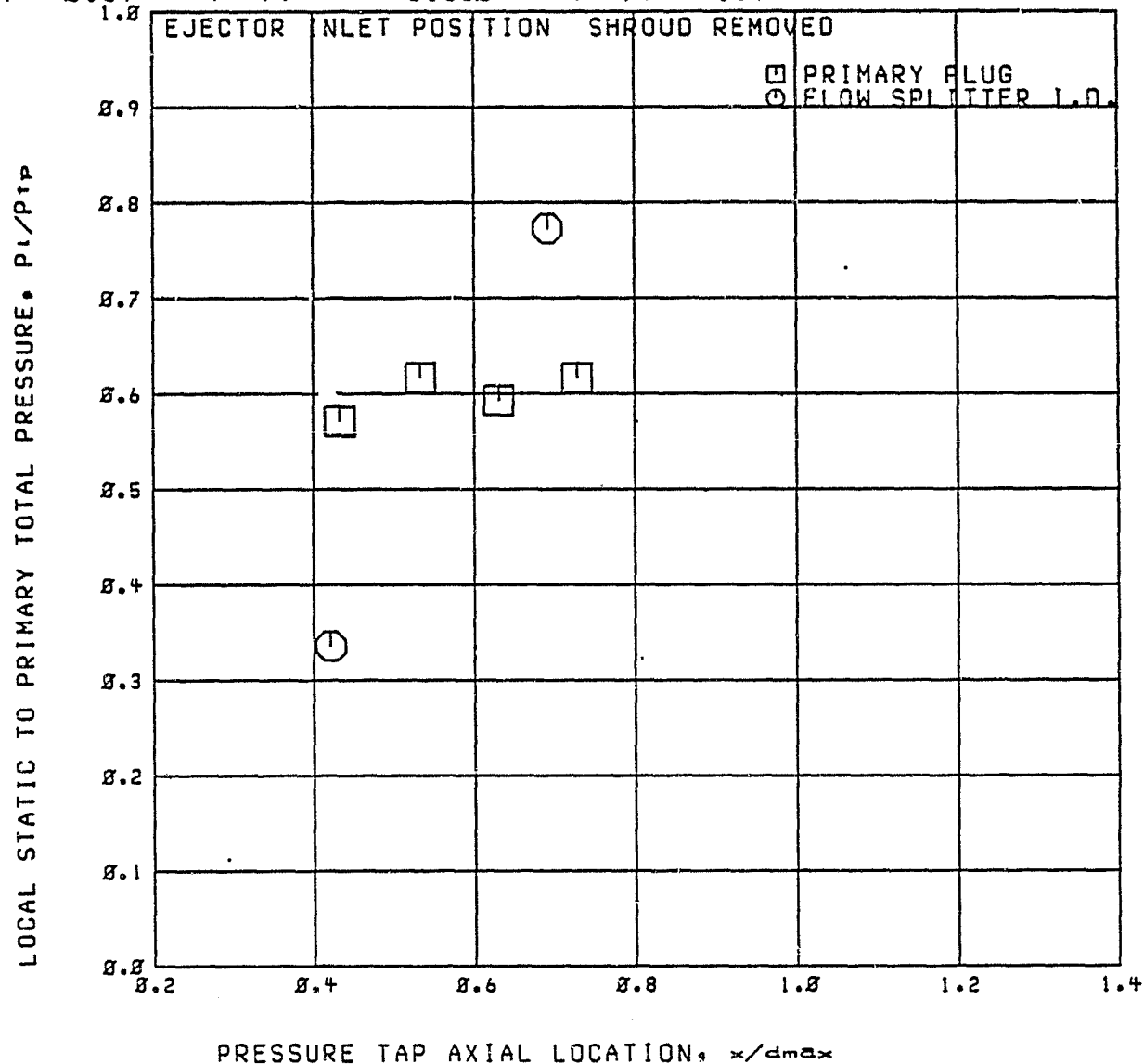
RUN 63

A2

RDG=2777

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$   $P_{tr}/P_o = 3.568$   $P_{tr}/P_{rp} = 1.94$



Run 63

RDG=2777

A2

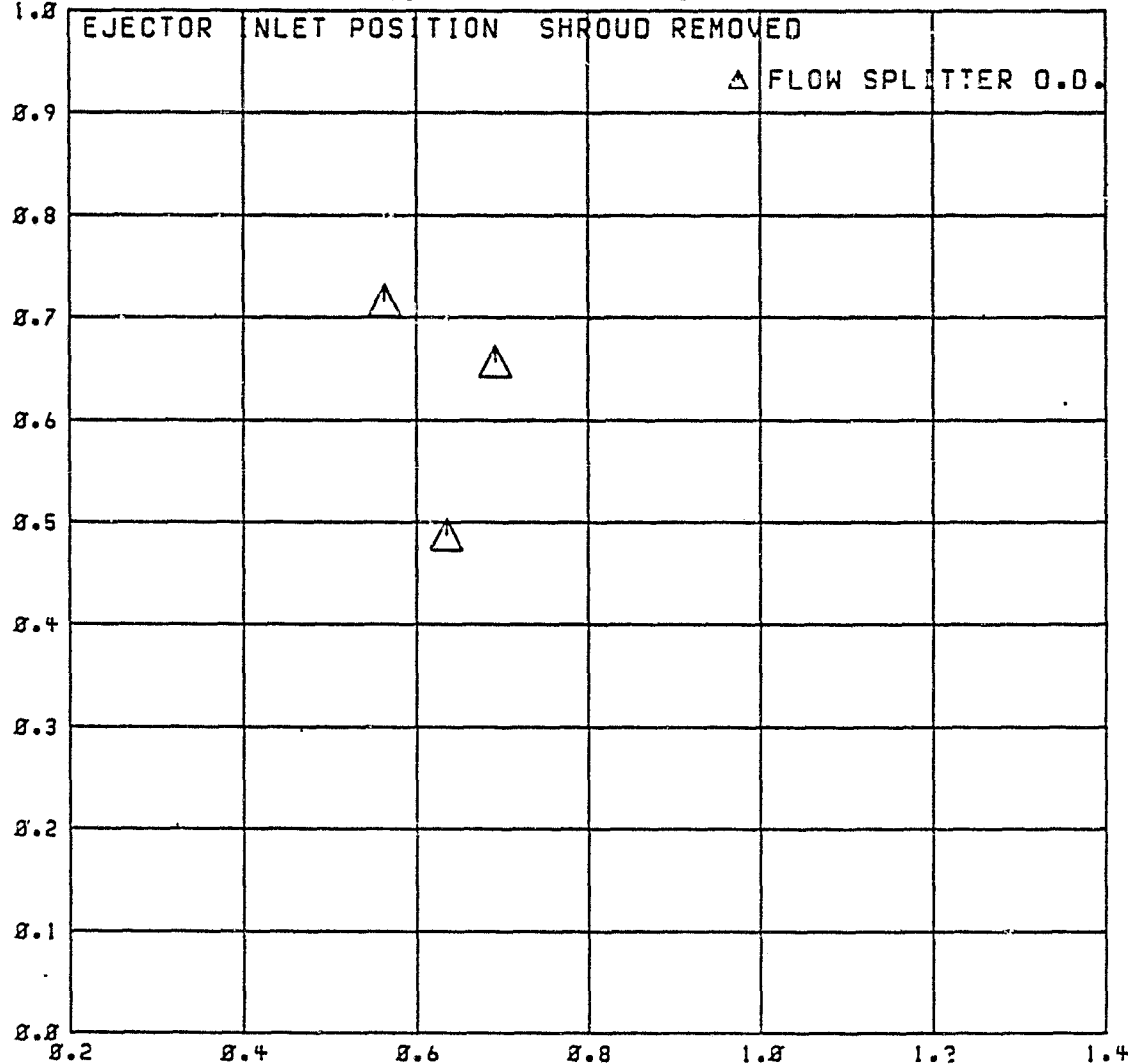
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M = 0.89$

$P_{tr}/P_o = 3.560$

$P_{tr}/P_{tr} = 1.94$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$



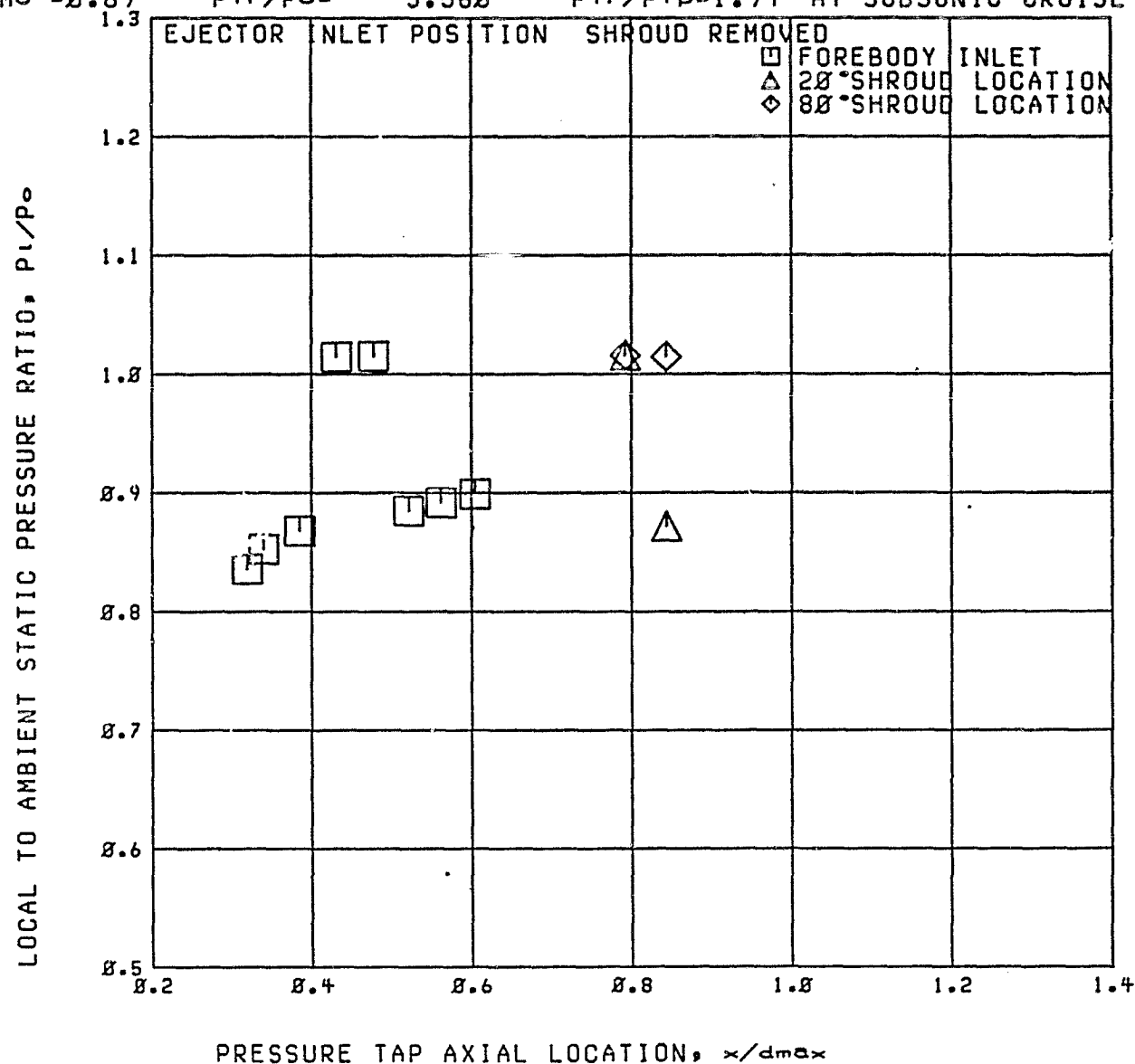
RUN 63

RDG=2777

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.89$   $P_{tr}/P_0 = 3.568$   $P_{tr}/P_{tr} = 1.94$  AT SUBSONIC CRUISE



RUN 63

A2

RDG=2778

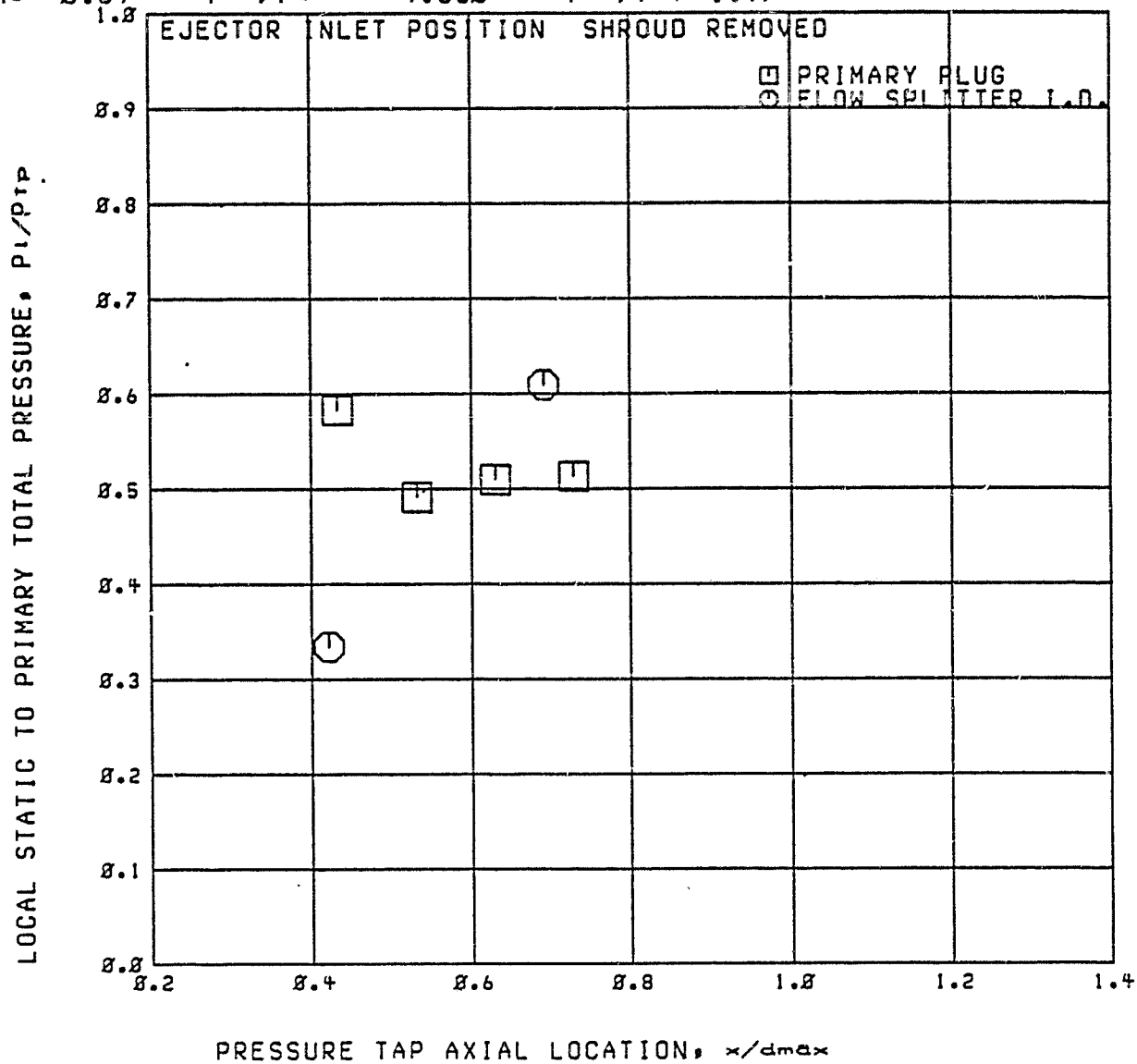
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$

$P_{tr}/P_o =$

4.550

$P_{tr}/P_{tp} = 1.97$



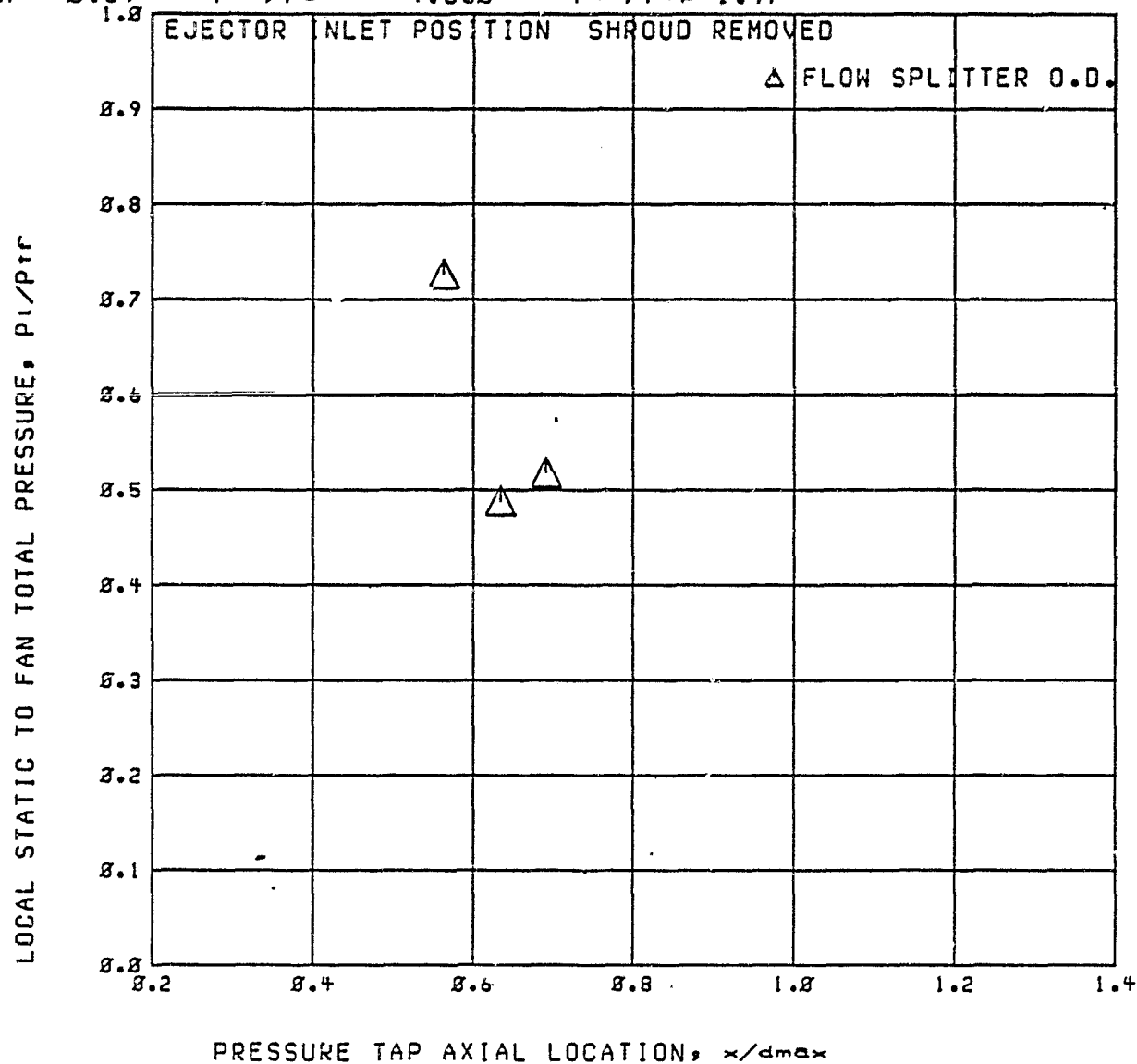
RUN 63

A2

RDG=2778

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$   $P_{tr}/P_o = 4.550$   $P_{tr}/P_{tp} = 1.97$



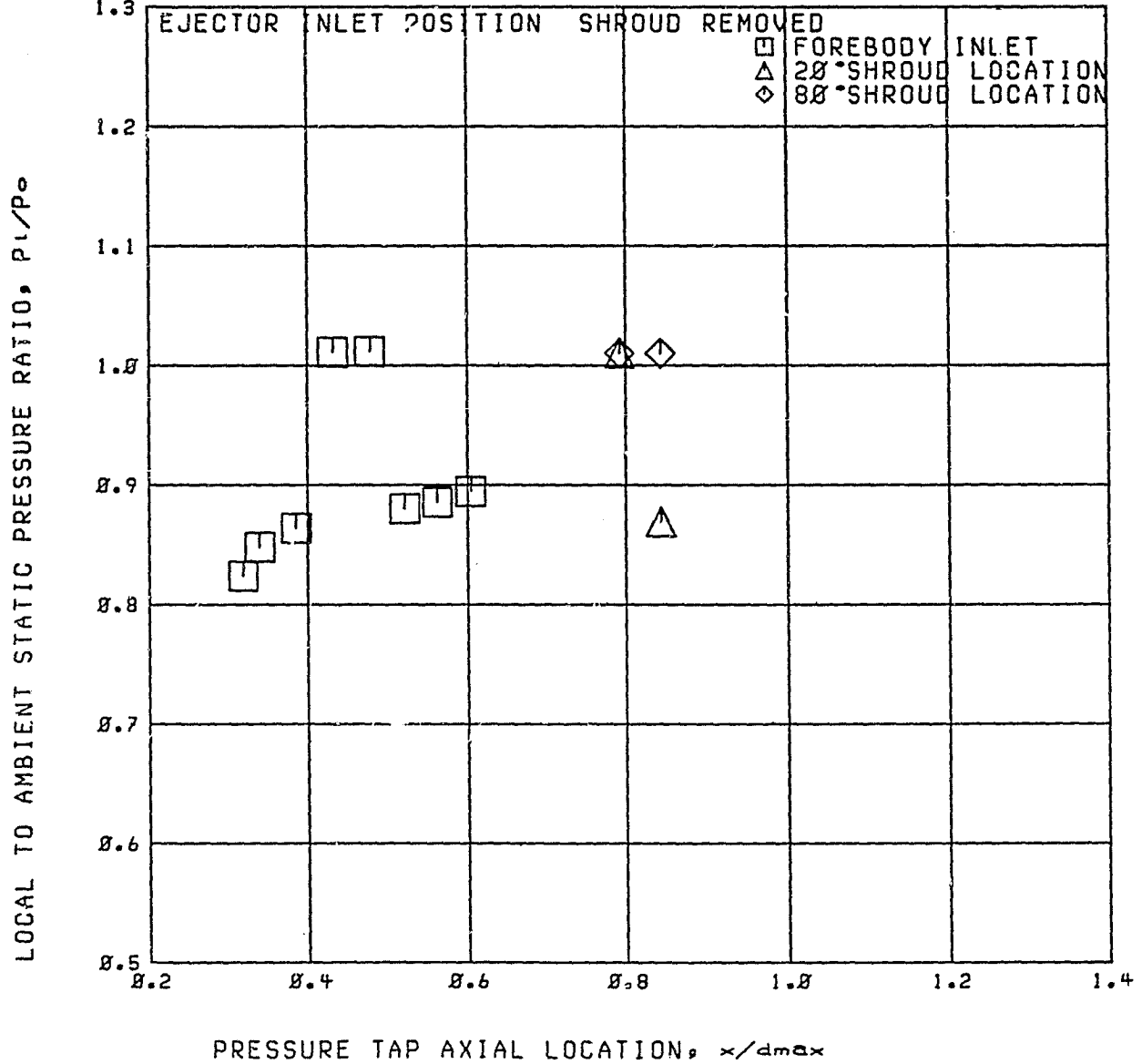
RUN 63

RDG=2778

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 4.550$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



Run 63

RDG=2779

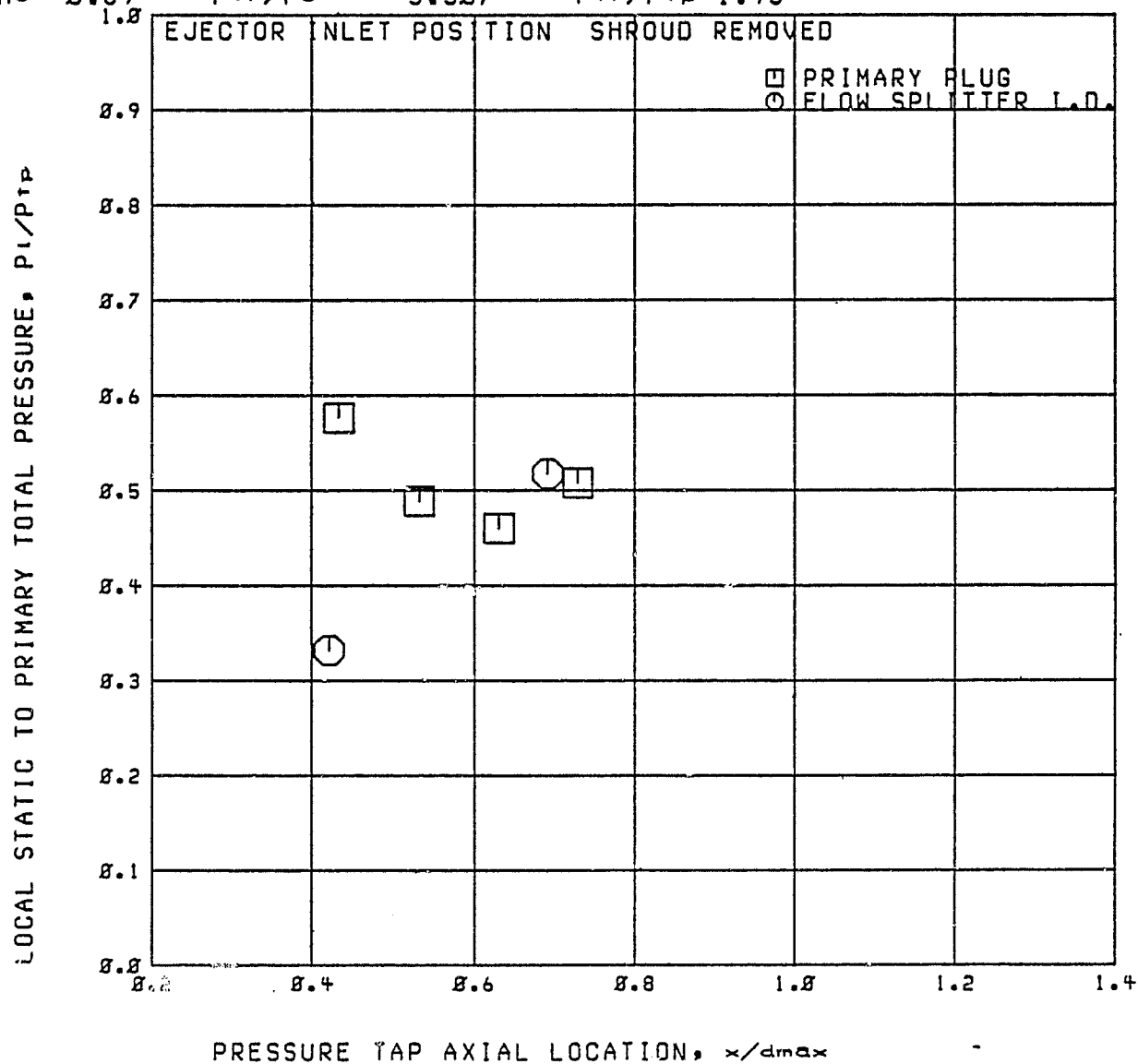
A2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$

$P_{tr}/P_0 = 5.307$

$P_{tr}/P_{tp} = 1.95$



RUN 63

A2

RDG=2779

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

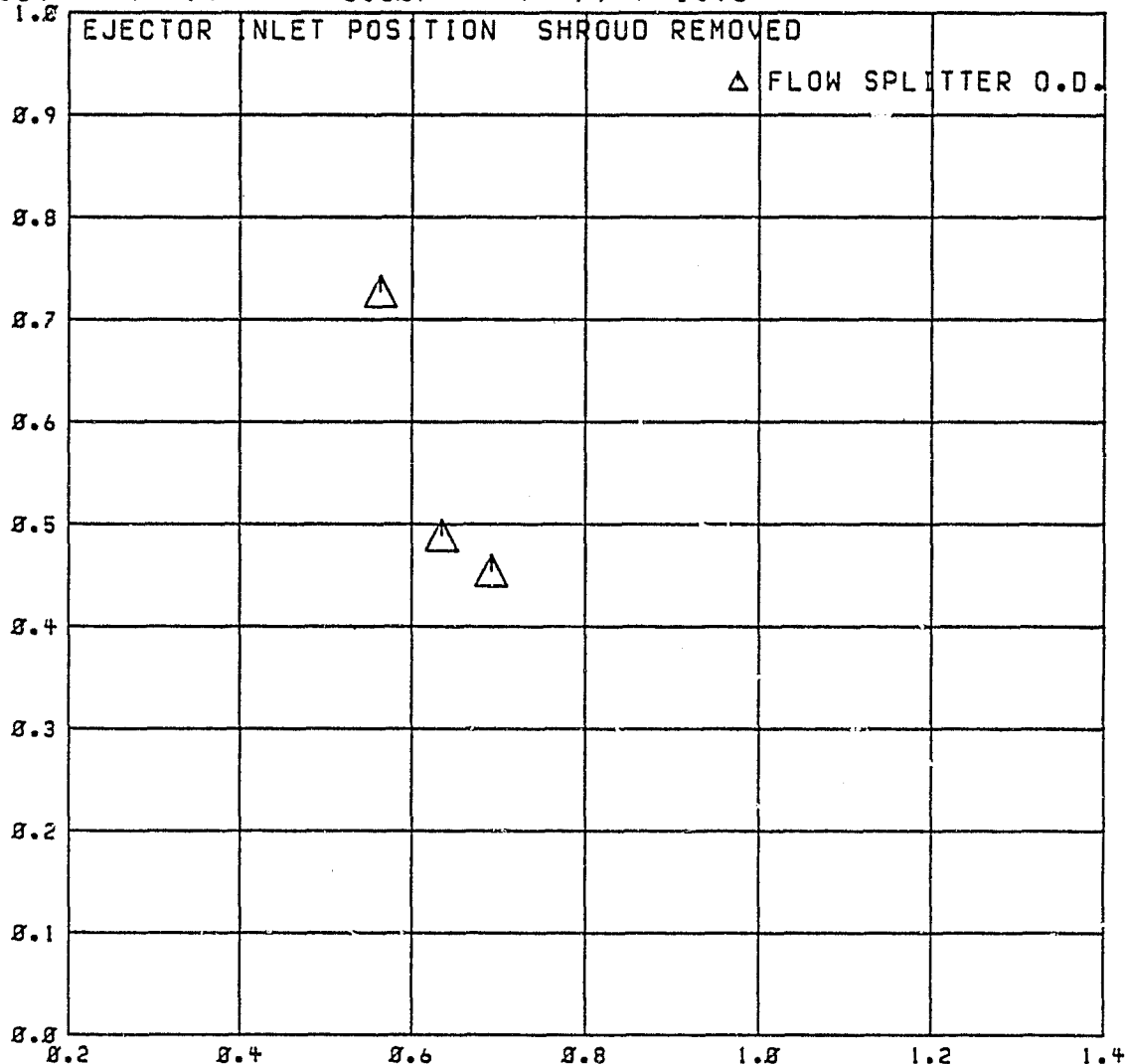
$M_o = 0.89$

$P_{tr}/P_o =$

5.307

$P_{tr}/P_{tp} = 1.95$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

OF 2002-2003

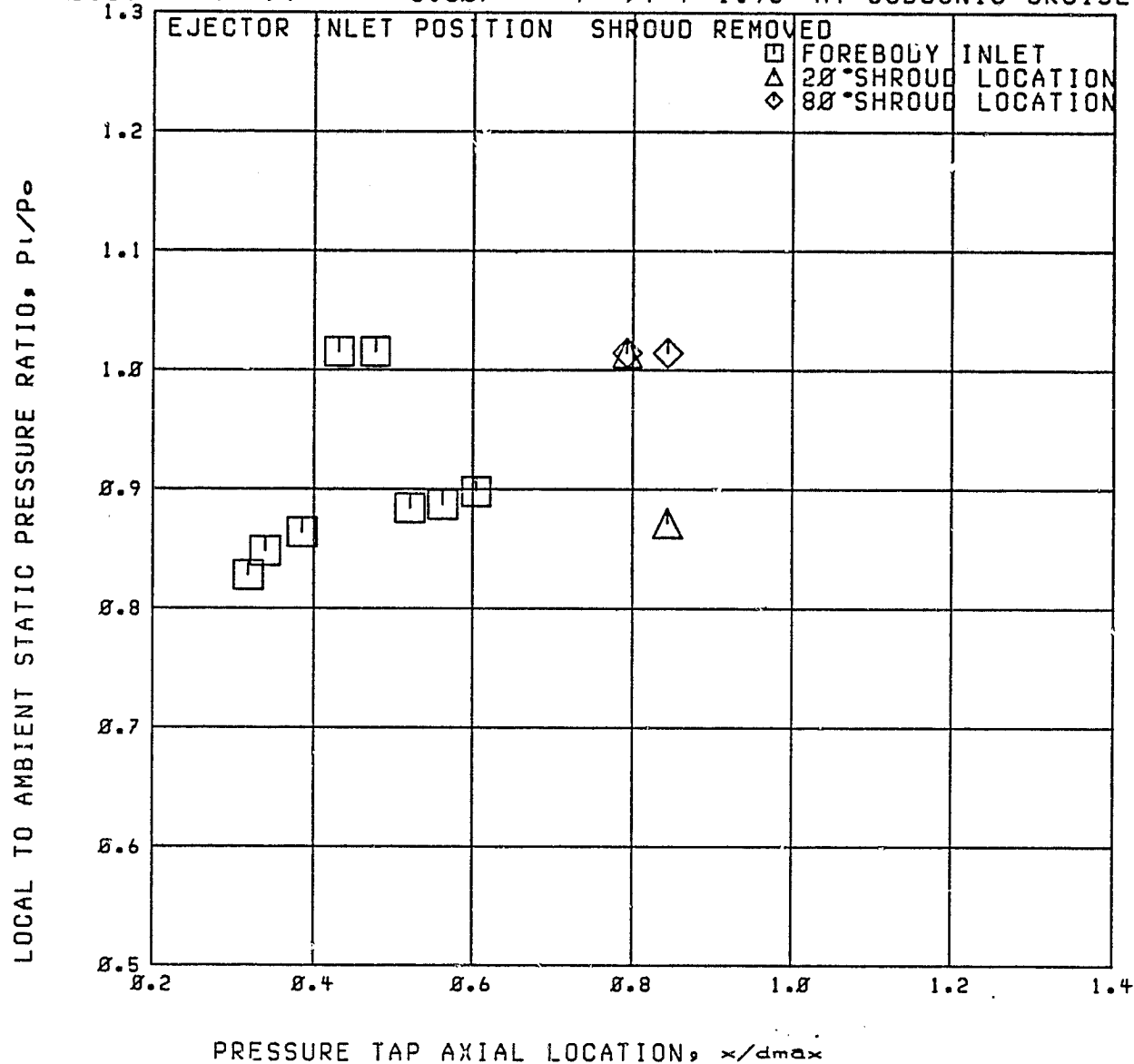
RUN 63

RDG=2779

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 5.307$   $P_{tr}/P_{tr} = 1.95$  AT SUBSONIC CRUISE



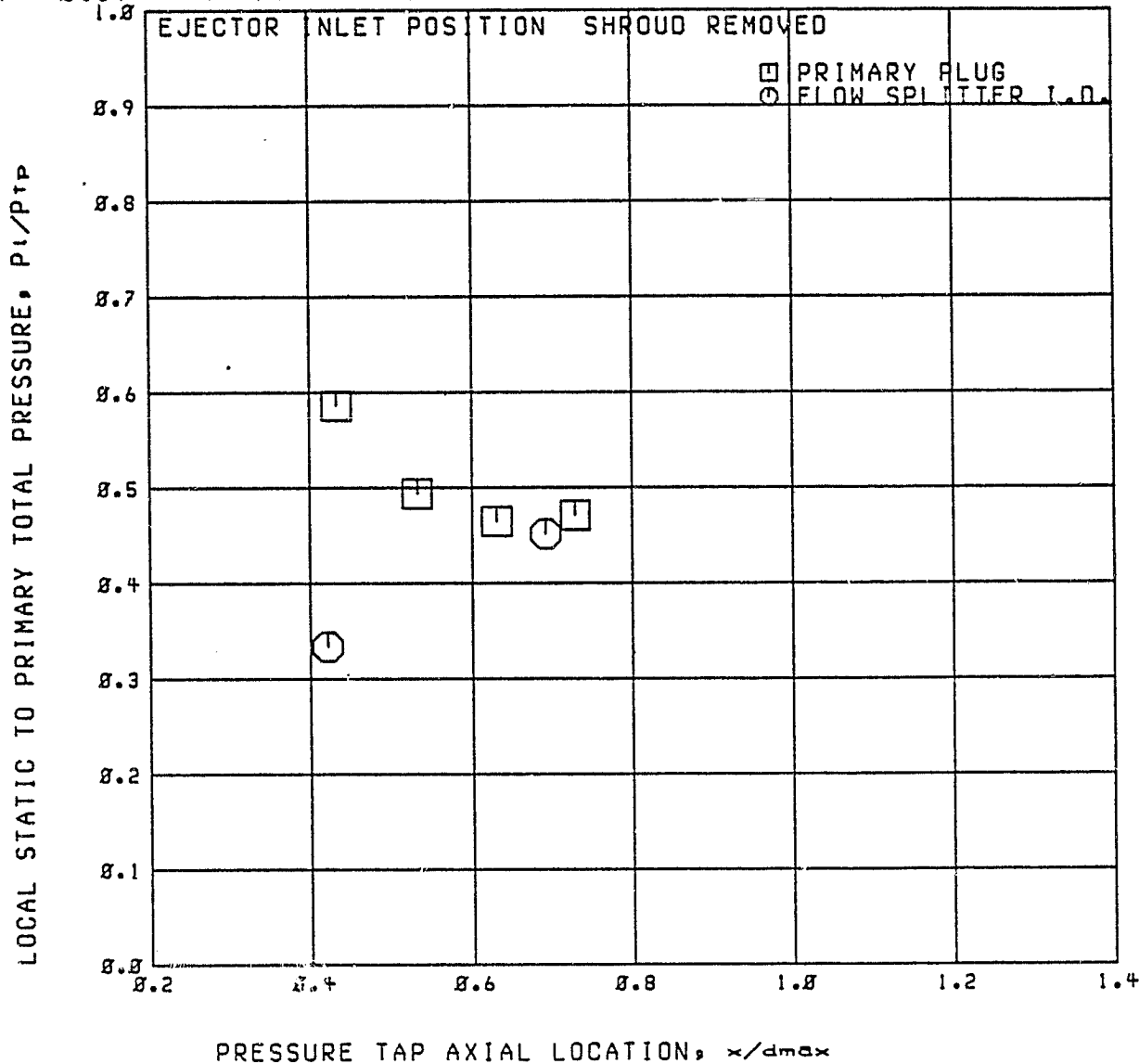
RUN 63

A2

RDG=2788

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$      $P_{tr}/P_o = 6.868$      $P_{tr}/P_{tp} = 1.95$





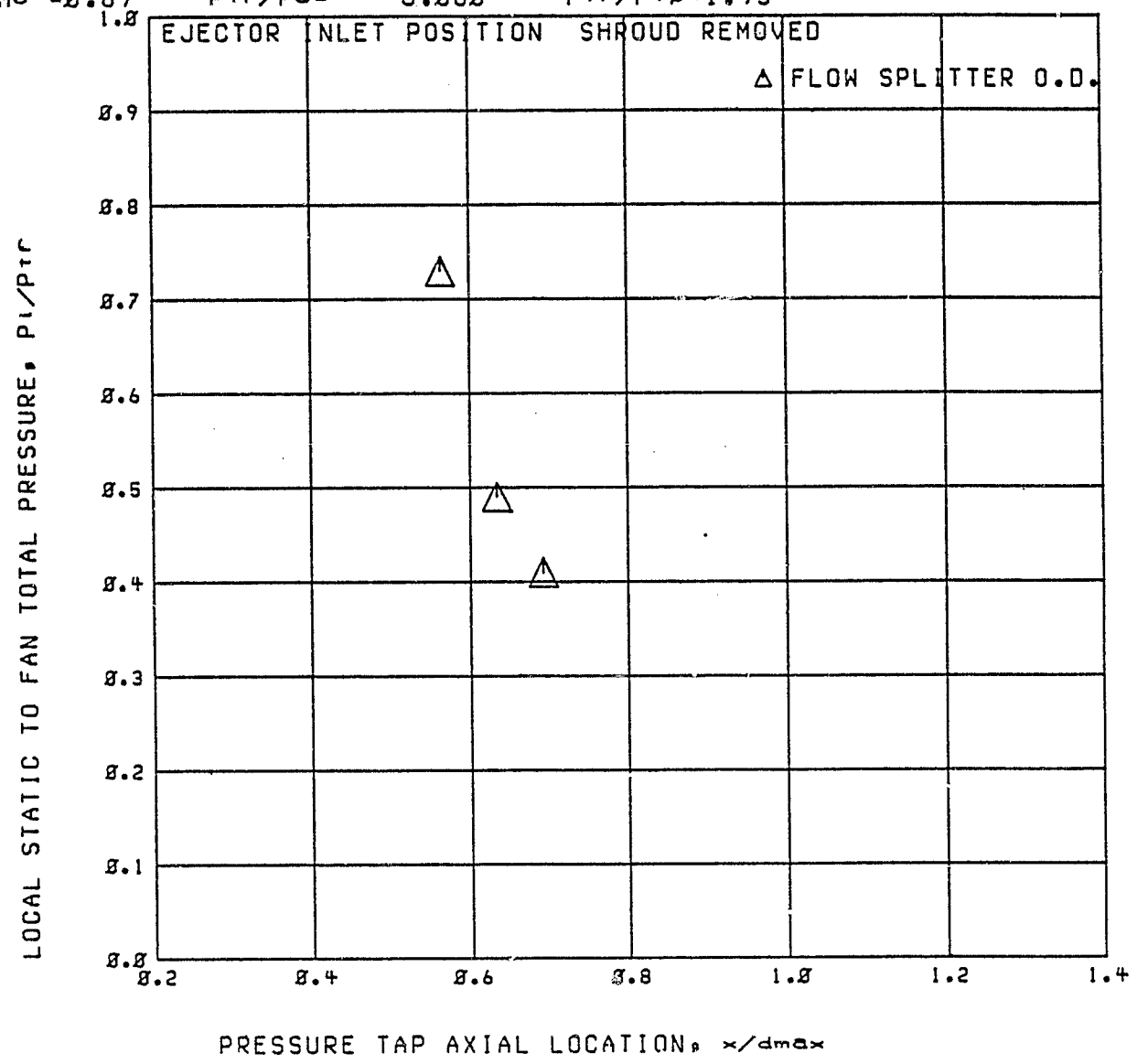
RUN 63

A2

RDG=2780

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.89$        $P_{tr}/P_0 = 6.068$        $P_{tr}/P_{tp} = 1.95$



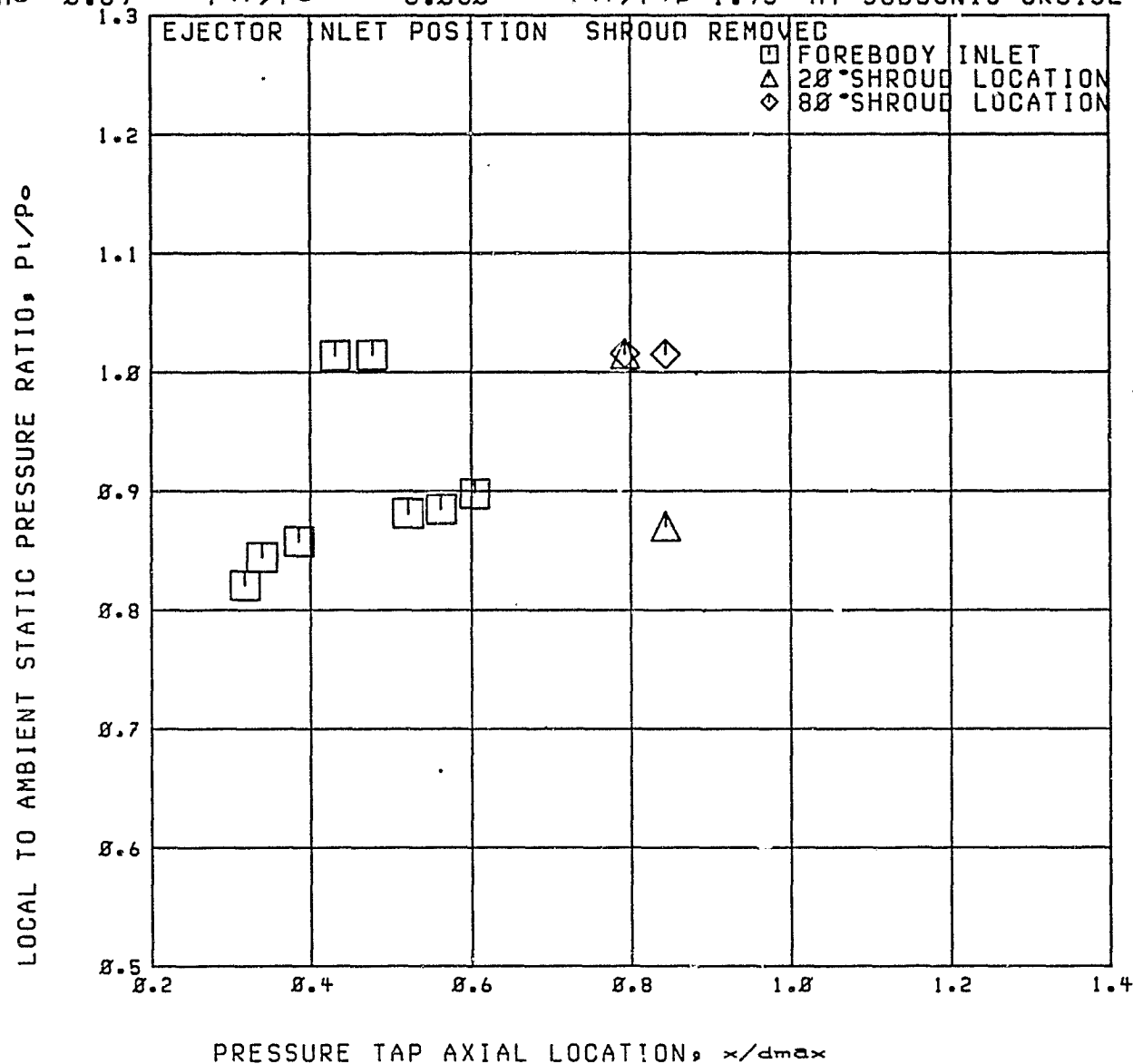
Run 63

RDG=2780

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 6.060$   $P_{tr}/P_{trp} = 1.95$  AT SUBSONIC CRUISE



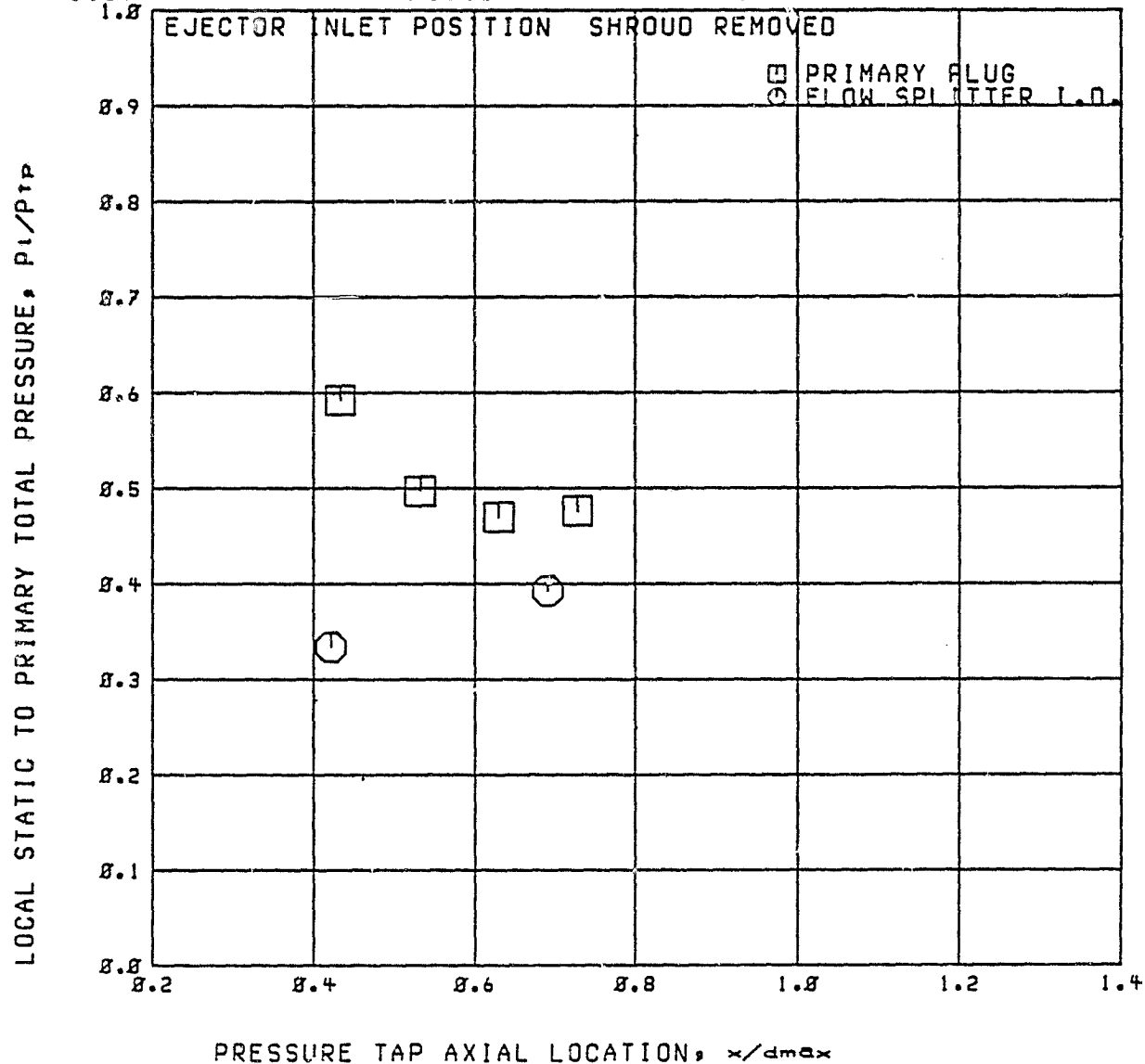
Run 63

A2

RDG=2781

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.89$      $P_{tr}/P_o = 7.058$      $P_{tr}/P_{trp} = 1.97$



Run 63

A2

RDG=2781

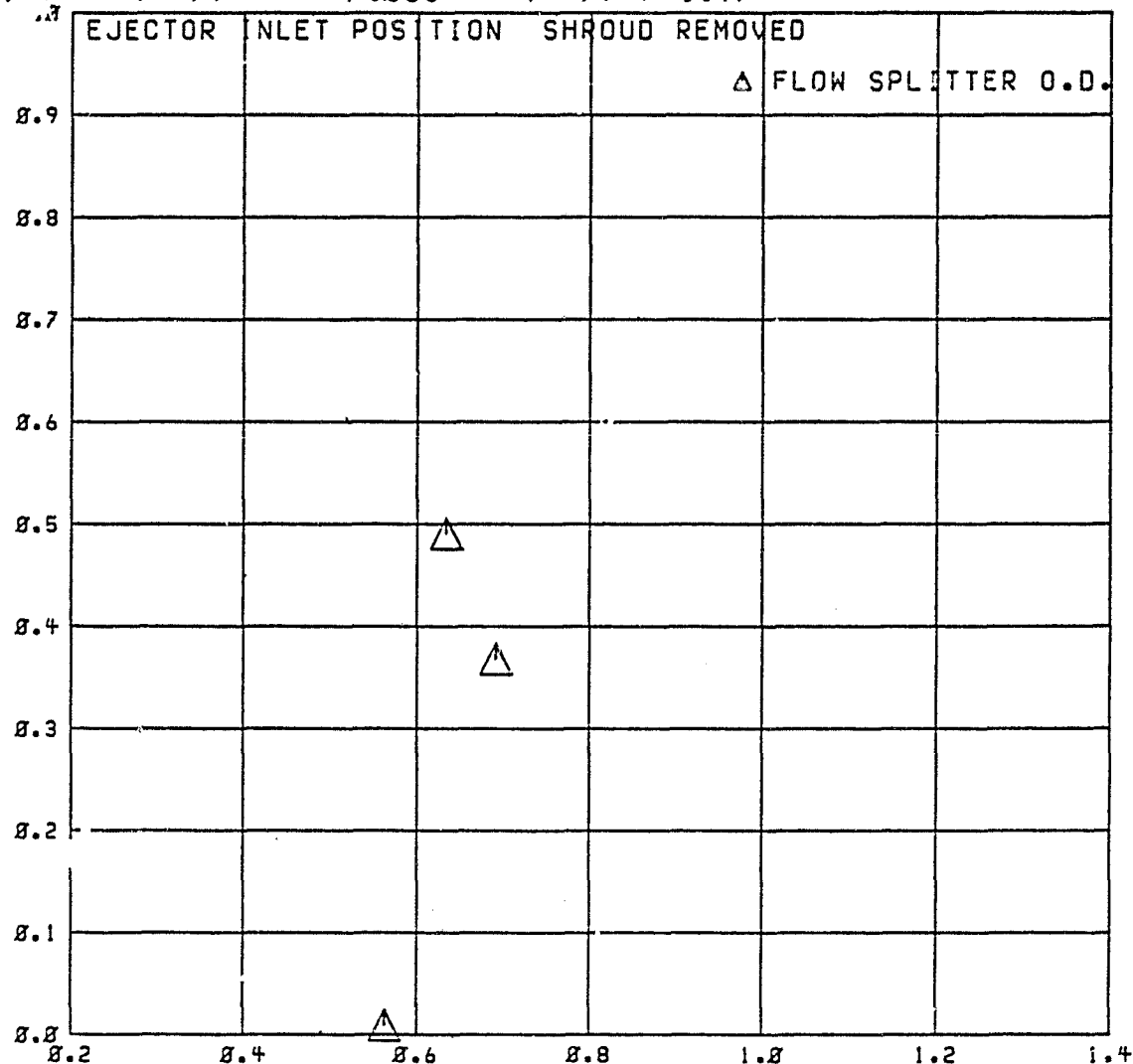
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.8$

$P_{tr}/P_0 = 7.858$

$P_{tr}/P_{trp} = 1.97$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_1/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

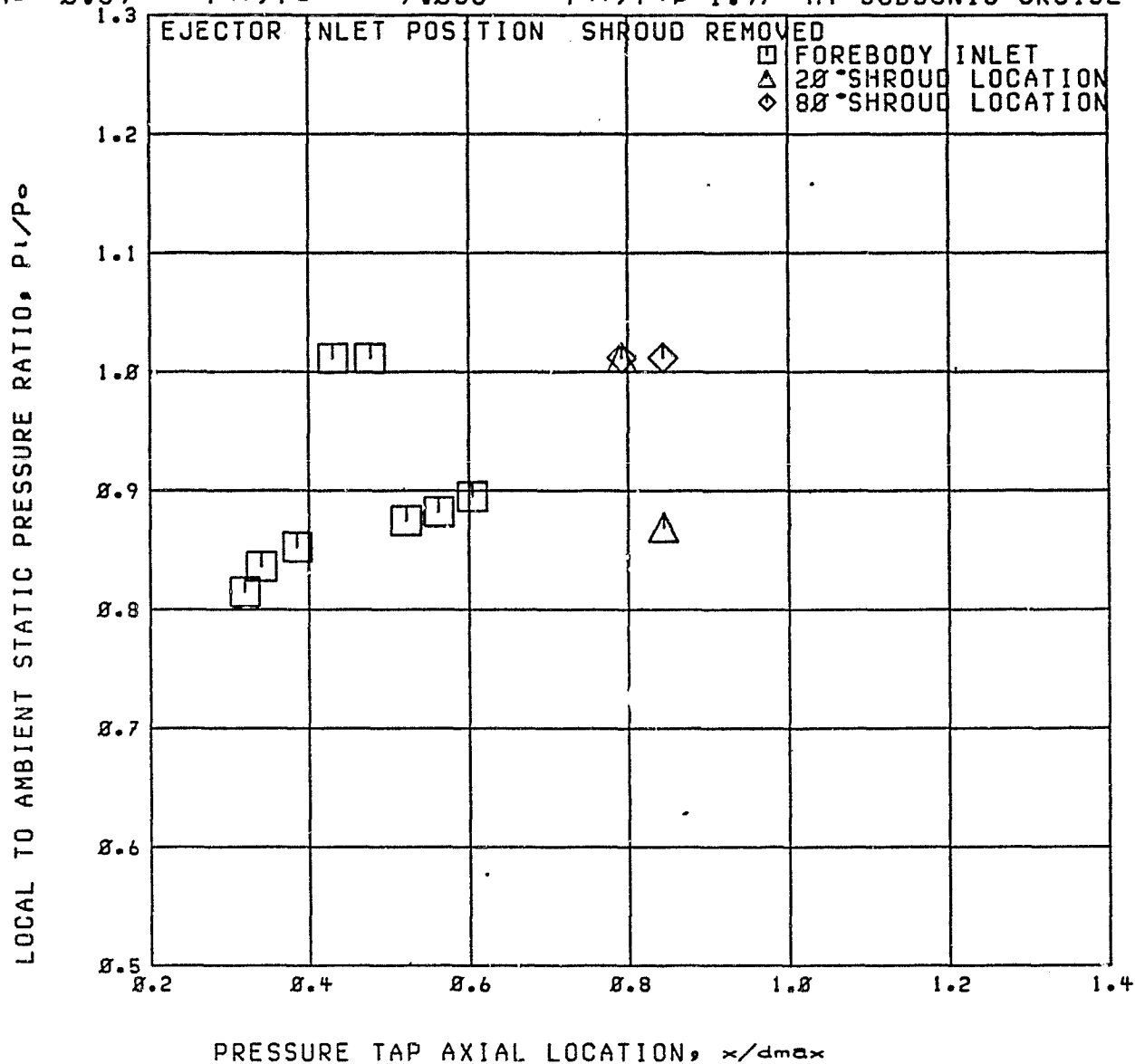
RUN 63

RDG=2781

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.89$   $P_{tr}/P_o = 7.058$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



RUN 63

A2

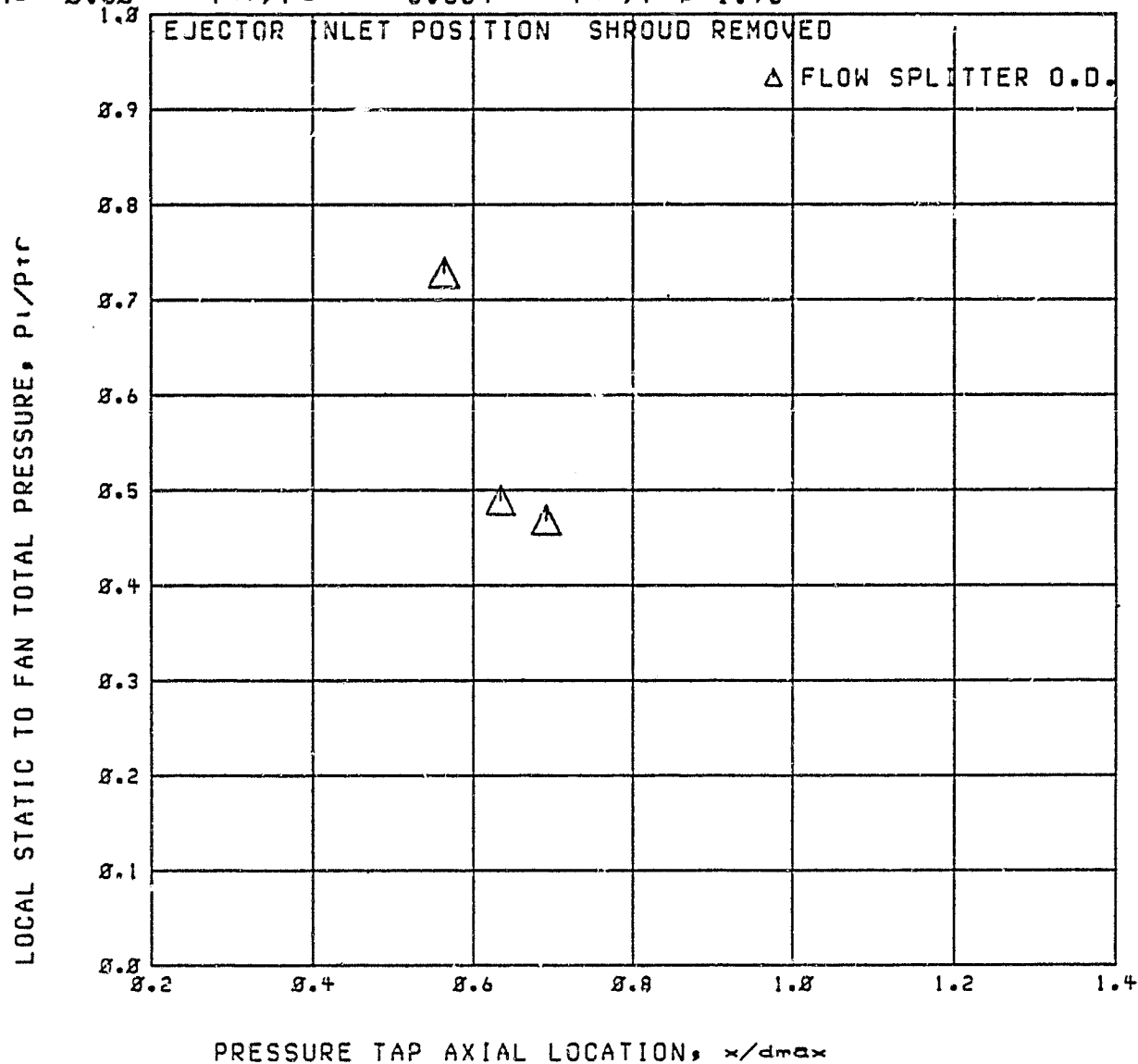
RDG=2785

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.80$

$P_{tr}/P_0 = 5.334$

$P_{tr}/P_{tp} = 1.95$



ROW 63

A2

RD=2785

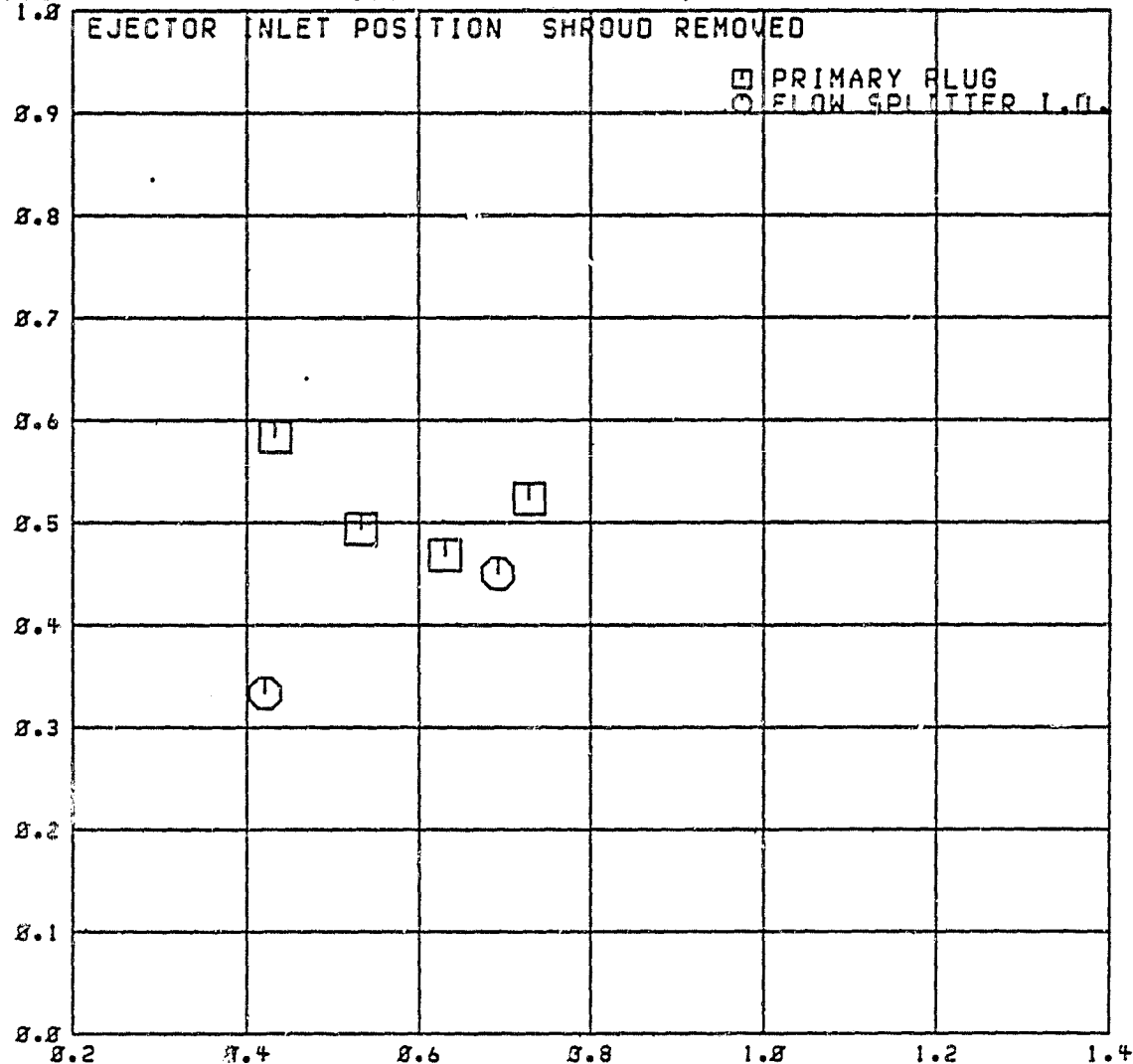
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.80$

$P_{tr}/P_0 = 5.334$

$P_{tr}/P_{tr} = 1.95$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

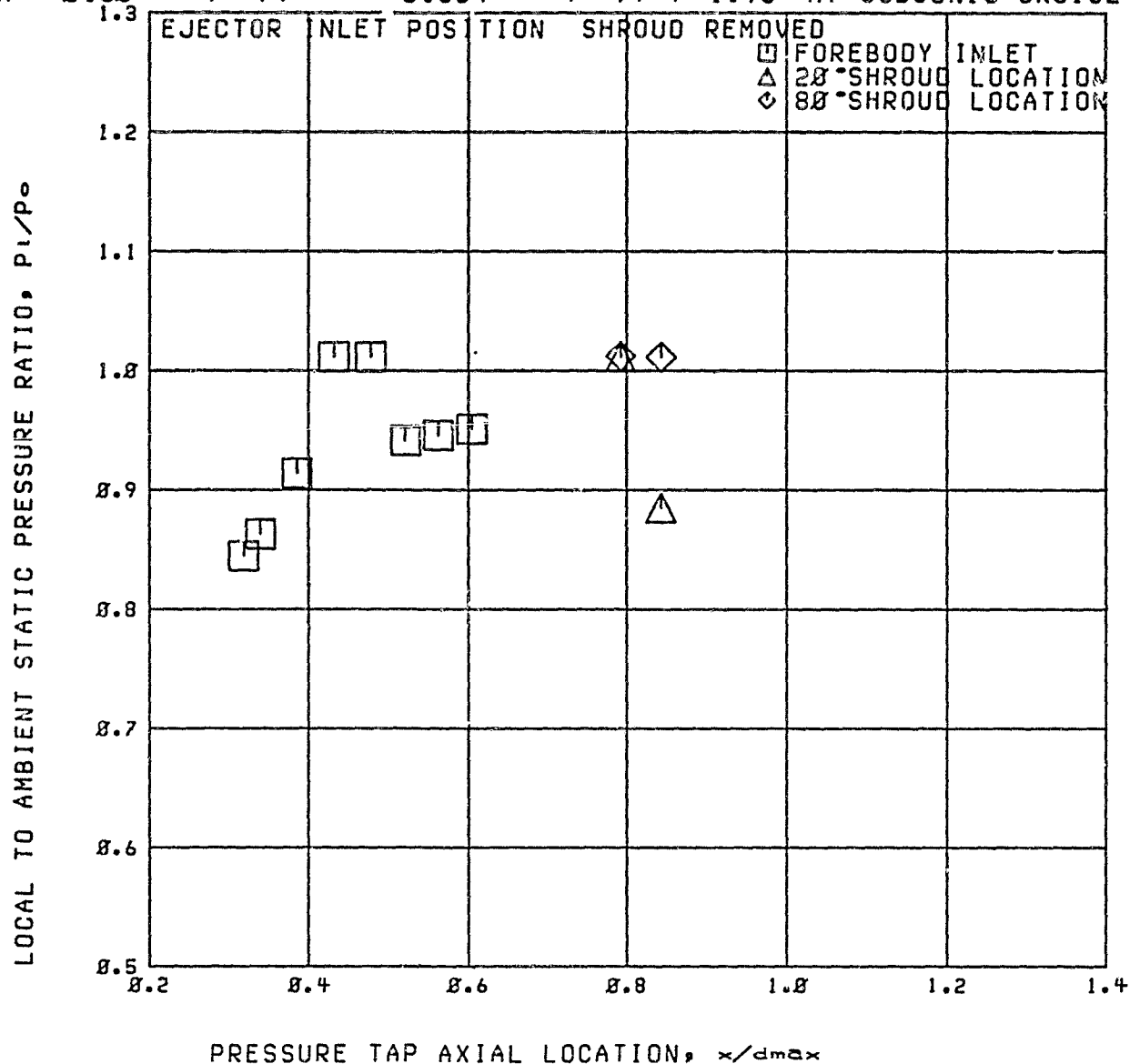
RUN 63

A2

RDG=2785

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.80$   $P_{tr}/P_0 = 5.334$   $P_{tr}/P_{tp} = 1.95$  AT SUBSONIC CRUISE





RUN 63

A2

RDG=2791

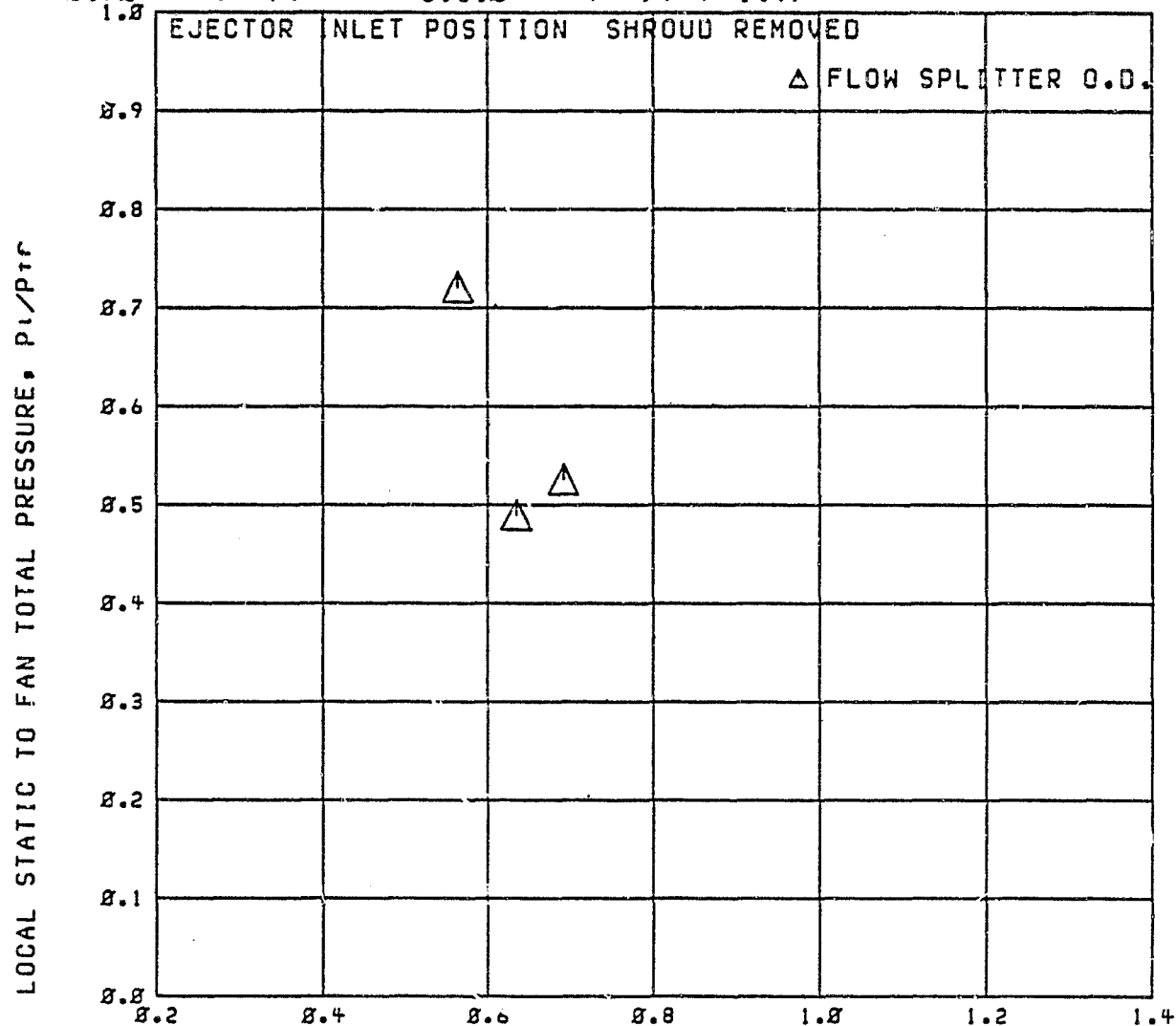
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.78$

$P_{tr}/P_0 =$

5.318

$P_{tr}/P_{tp} = 1.97$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

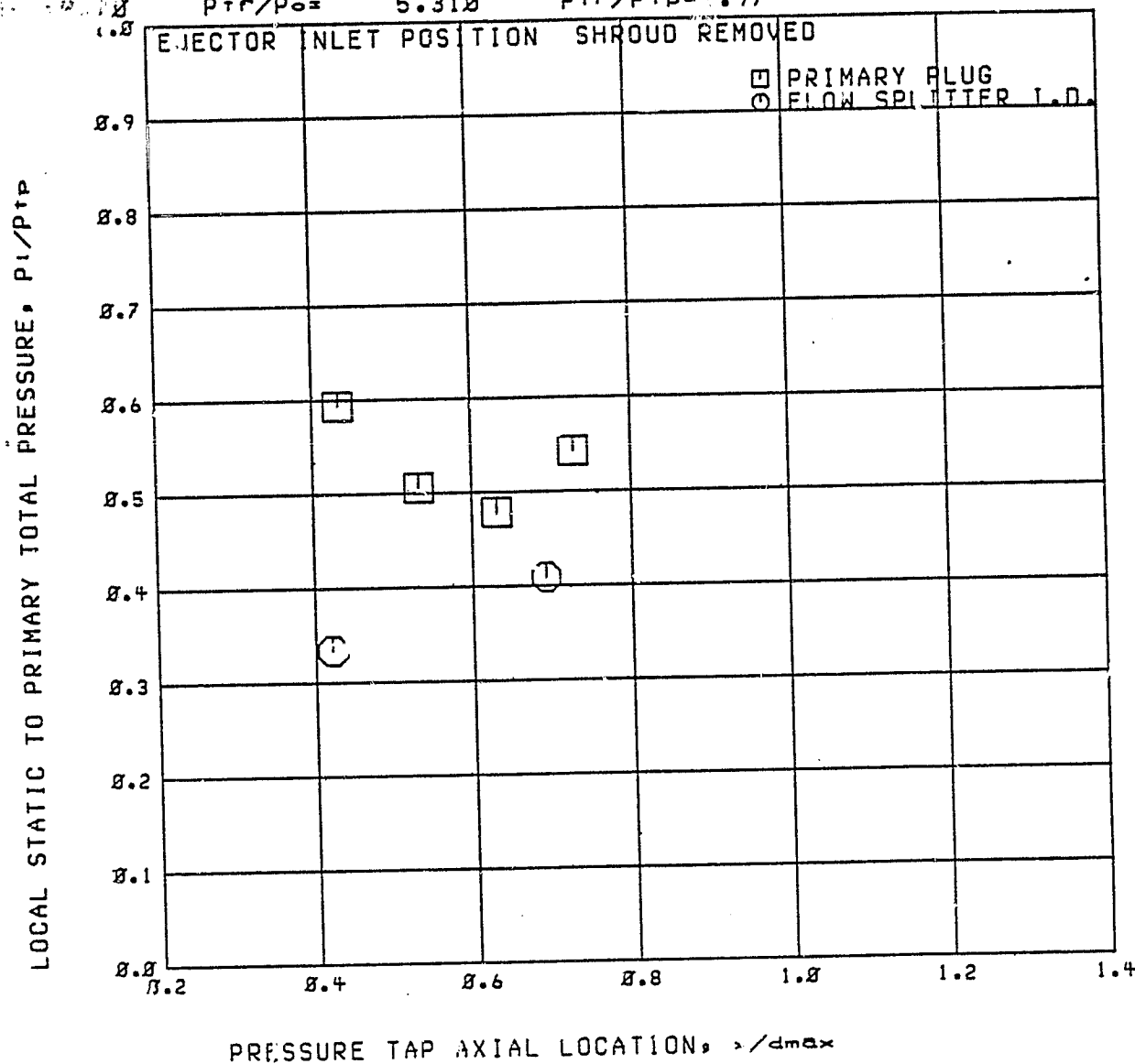
RUN 63

RDG=2791

A2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$P_{tr}/P_{o\infty} = 5.318$   $P_{tr}/P_{tp} = 1.97$



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OF POOR QUALITY

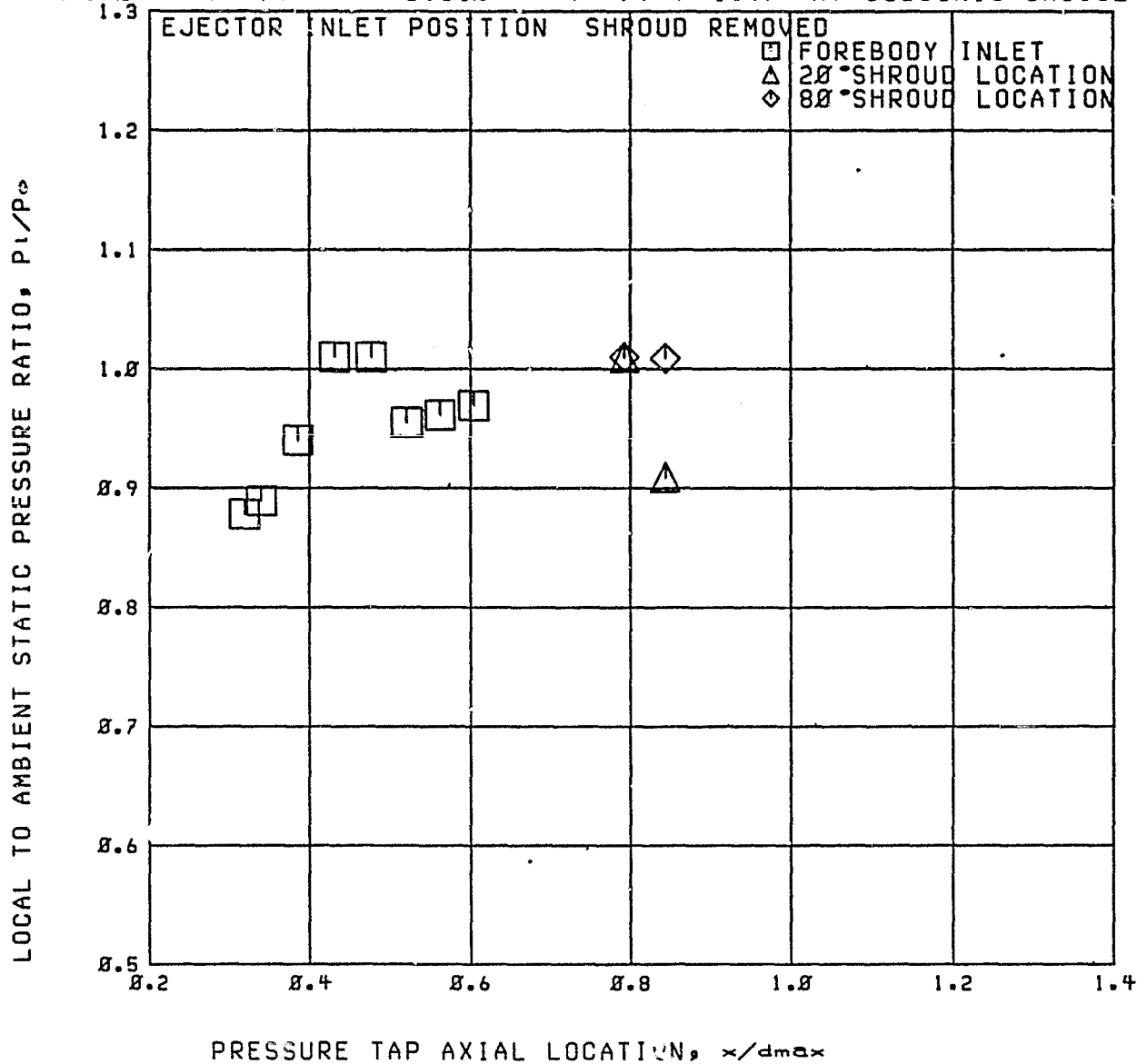
Run 63

RDG=2791

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.70$   $P_{tr}/P_0 = 5.310$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



RUN 63

RDG=2799

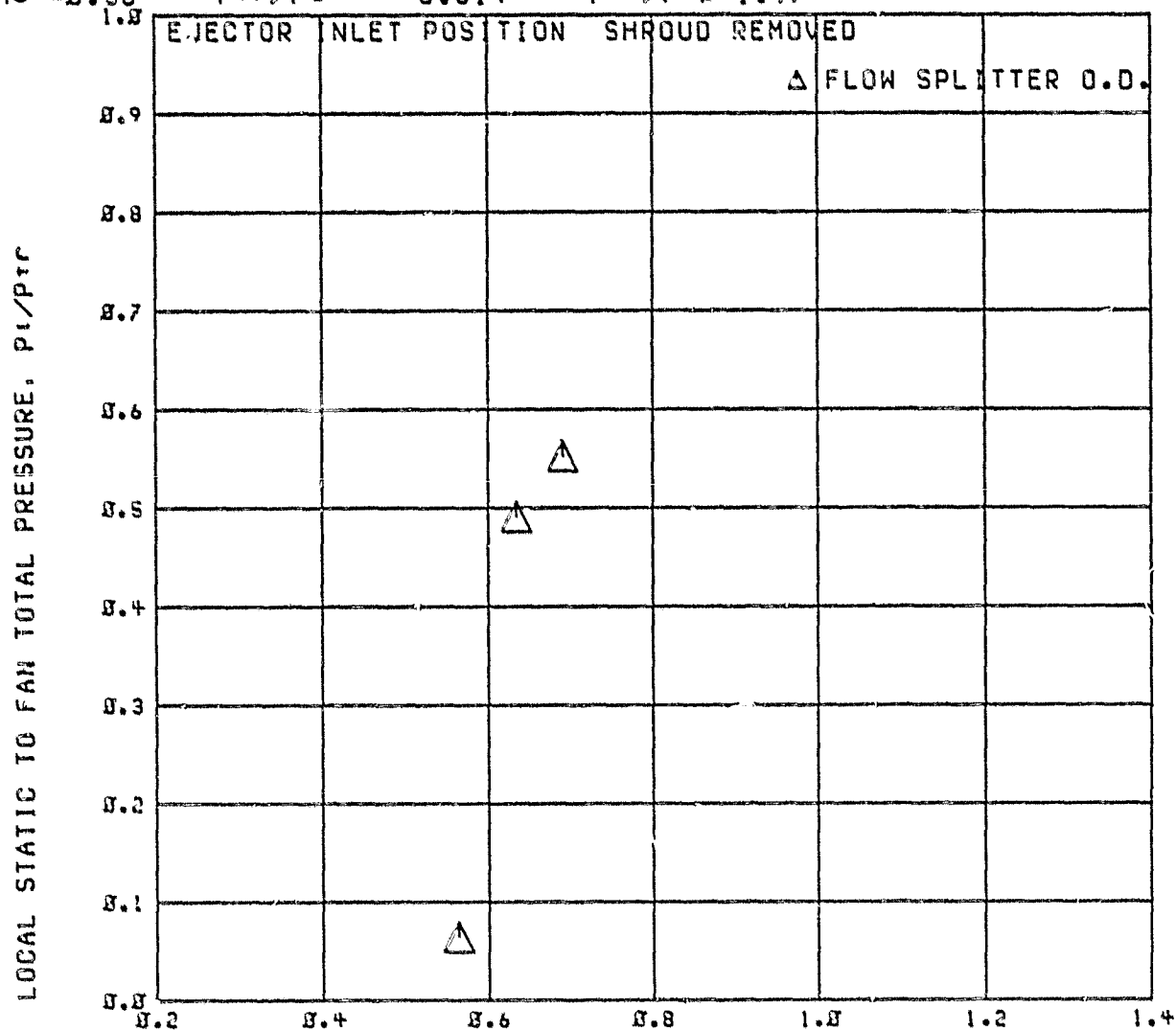
A2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.56$

$P_{tr}/P_0 = 5.314$

$P_{tr}/P_{rp} = 1.97$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

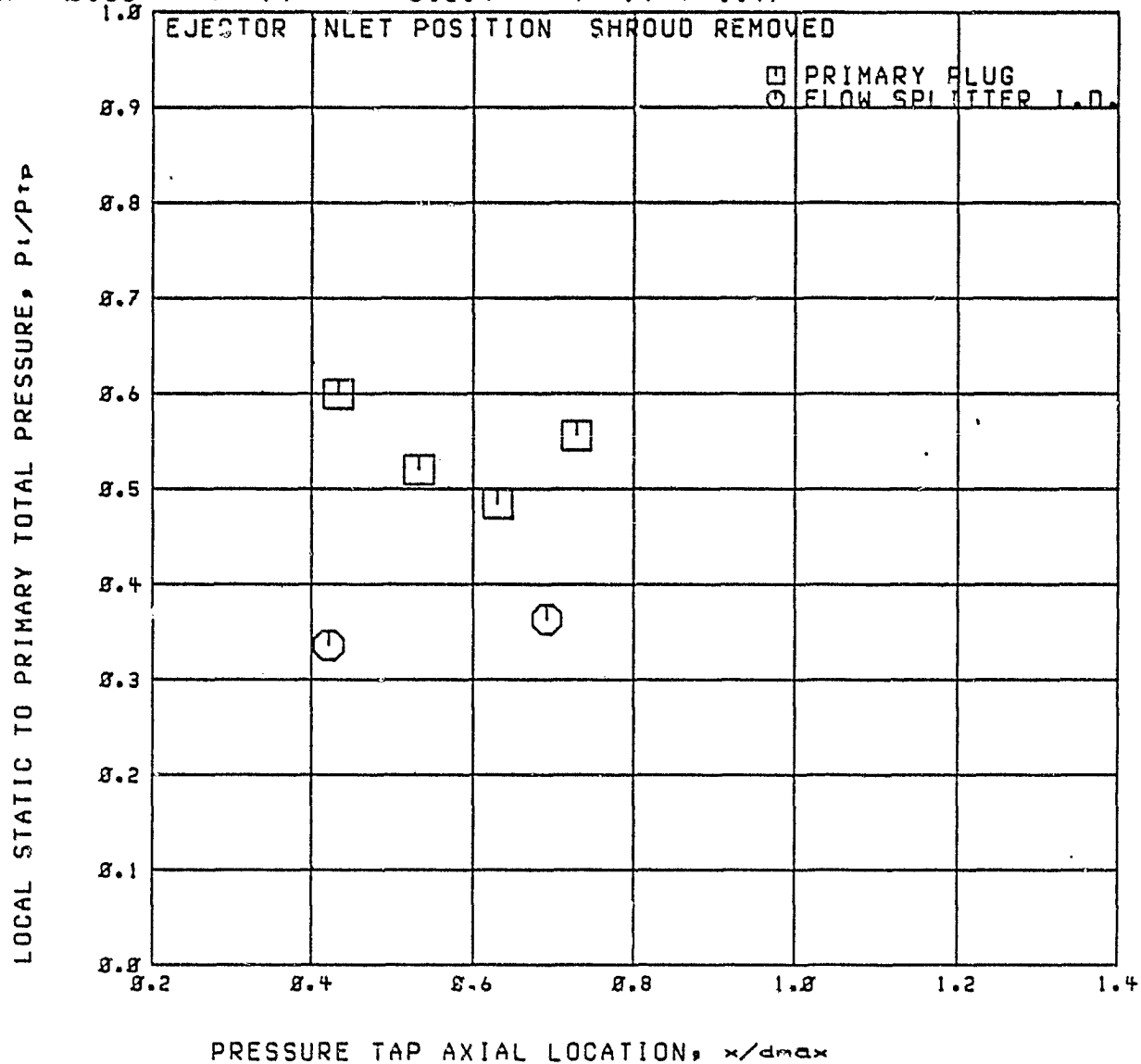
R0K16

A2

RDG=2799

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.56$   $P_{tr}/P_o = 5.314$   $P_{tr}/P_{tp} = 1.97$



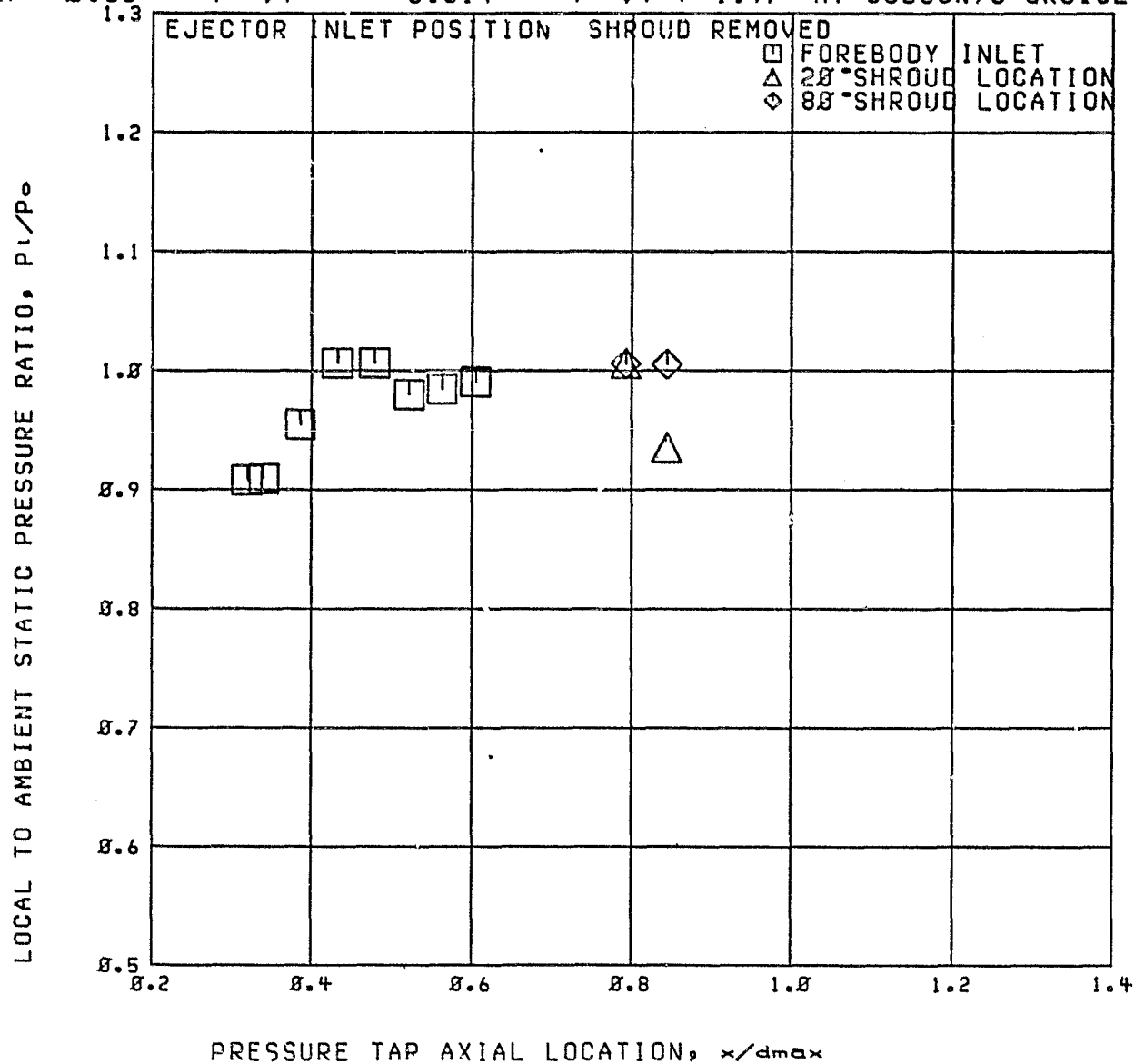
RUN 63

RDG=2799

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.56$   $P_{tr}/P_o = 5.314$   $P_{tr}/P_{tr} = 1.97$  AT SUBSONIC CRUISE



RUN 6.

RDG=2884

A2

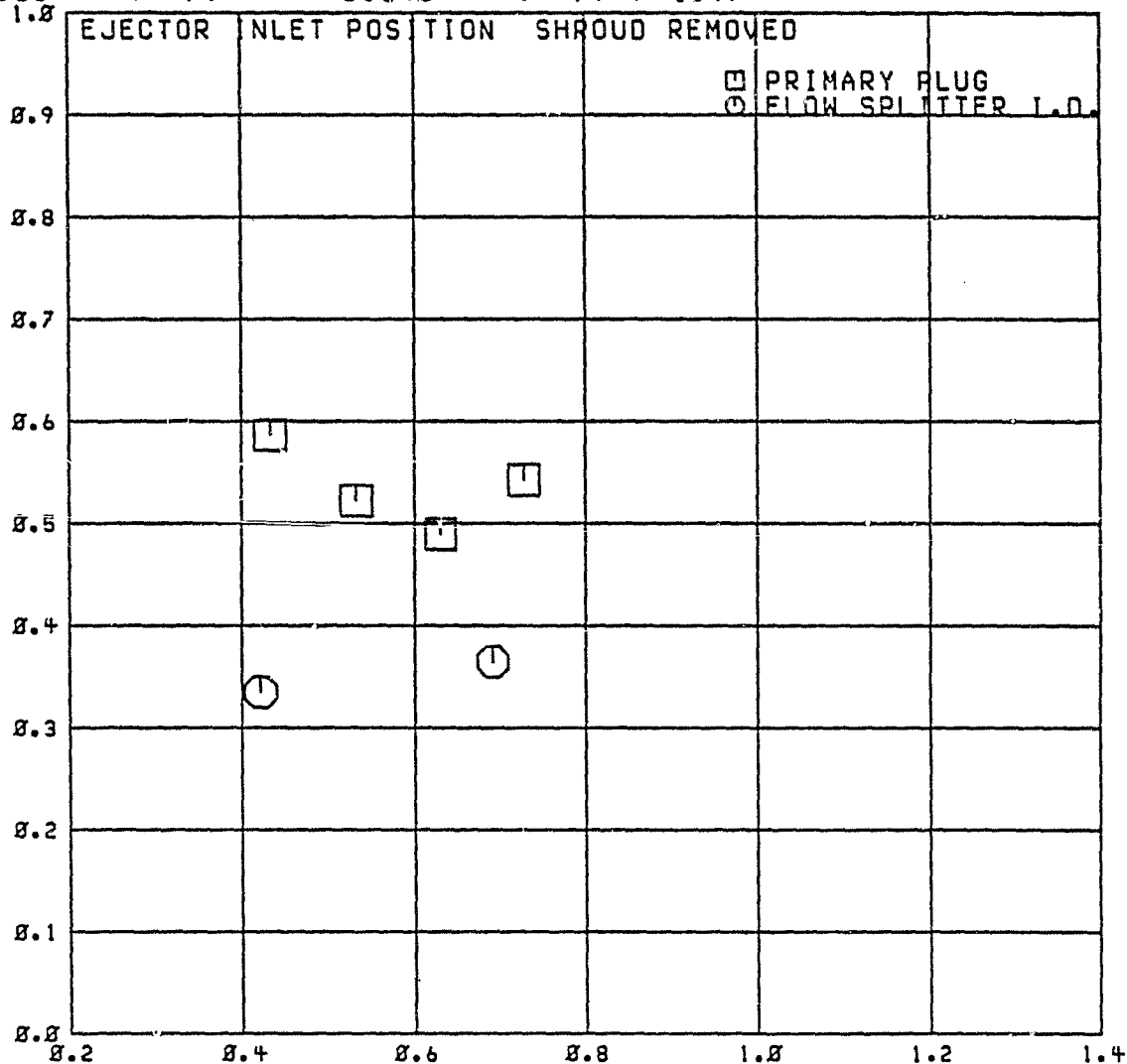
PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.36$

$P_{tr}/P_{02} = 5.348$

$P_{tr}/P_{tp} = 1.97$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_1/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

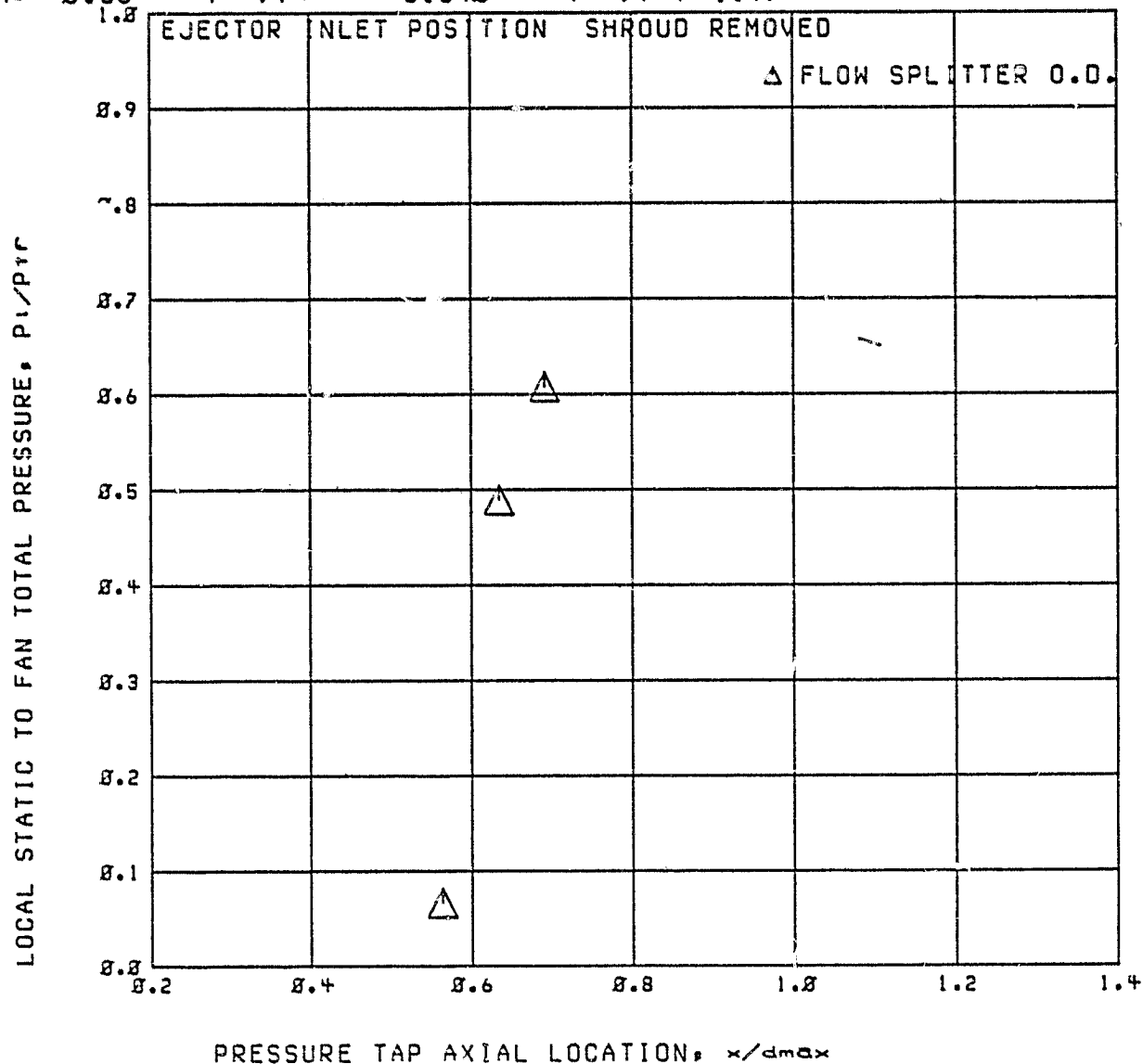
RUN 63

A2

RDG=2884

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_\infty = 0.36$   $P_{tr}/P_o = 5.348$   $P_{tr}/P_{tp} = 1.97$





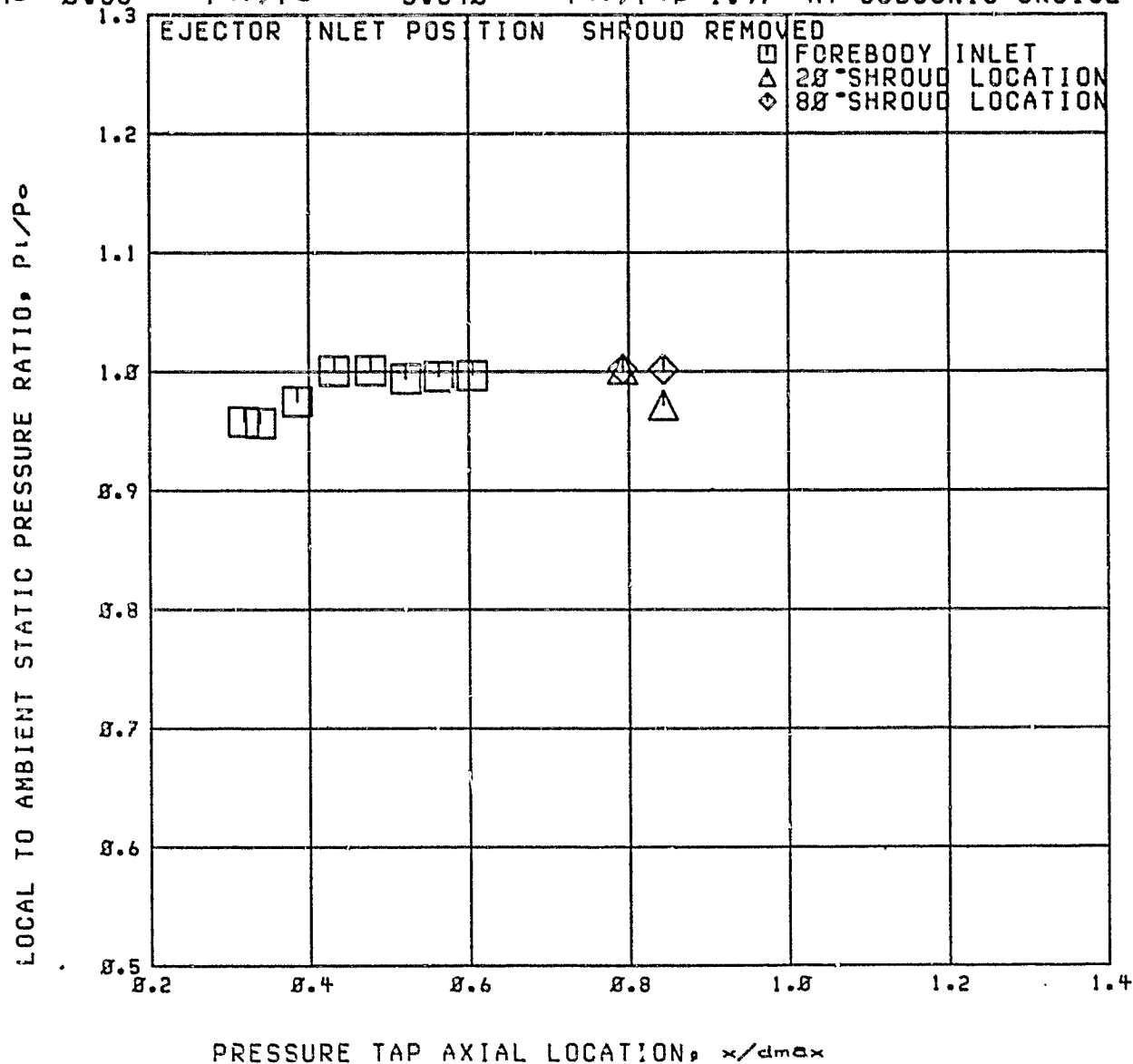
RUN 63

A2

RDC=2804

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.36$   $P_{tr}/P_o = 5.340$   $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



Run 63

A2

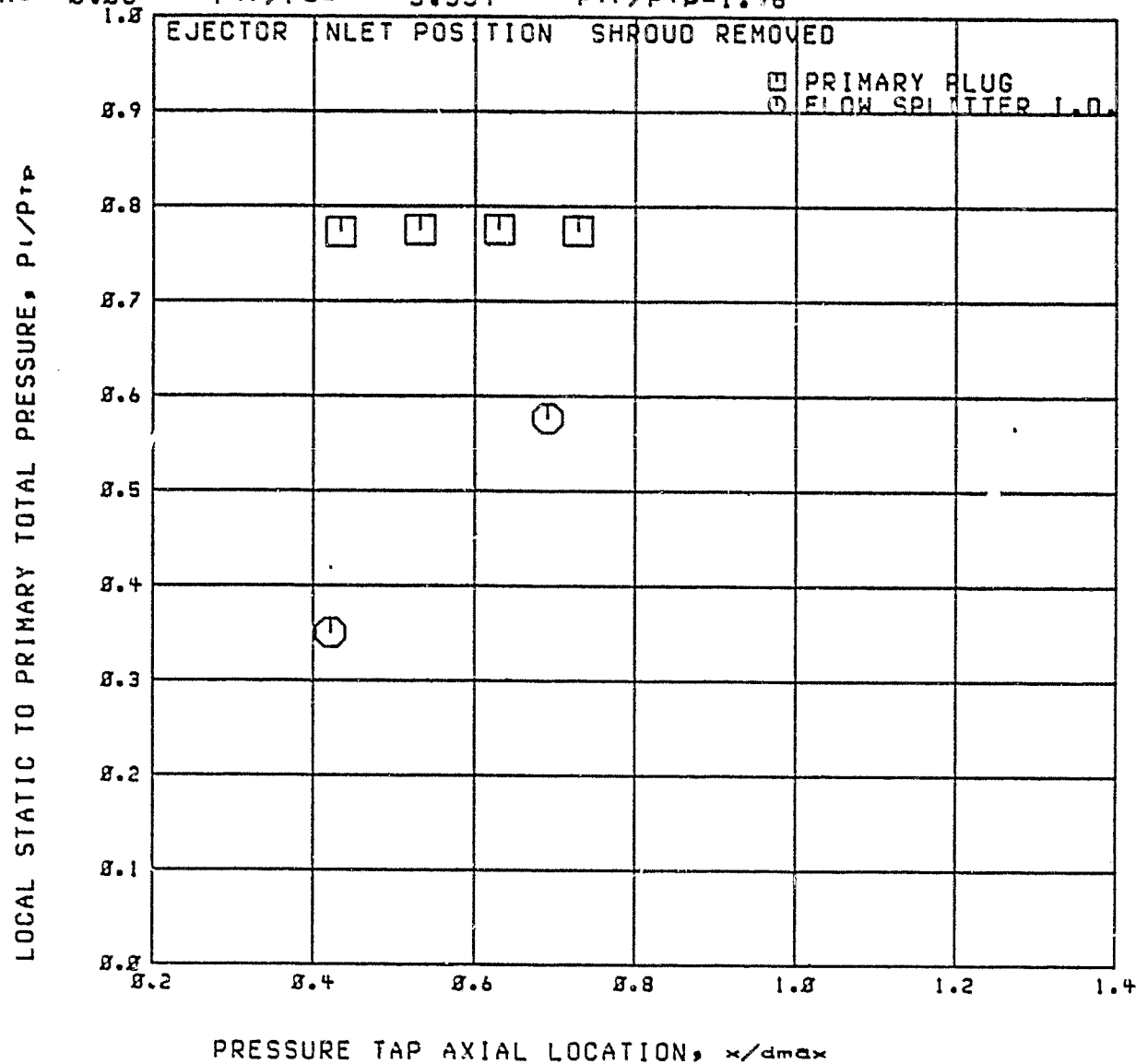
RDG=2815

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.83$

$P_{tr}/P_o = 3.554$

$P_{tr}/P_{tp} = 1.96$



ORIGINAL PAGE IS  
OF POOR QUALITY

Run 63

A2

RDG=2815

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

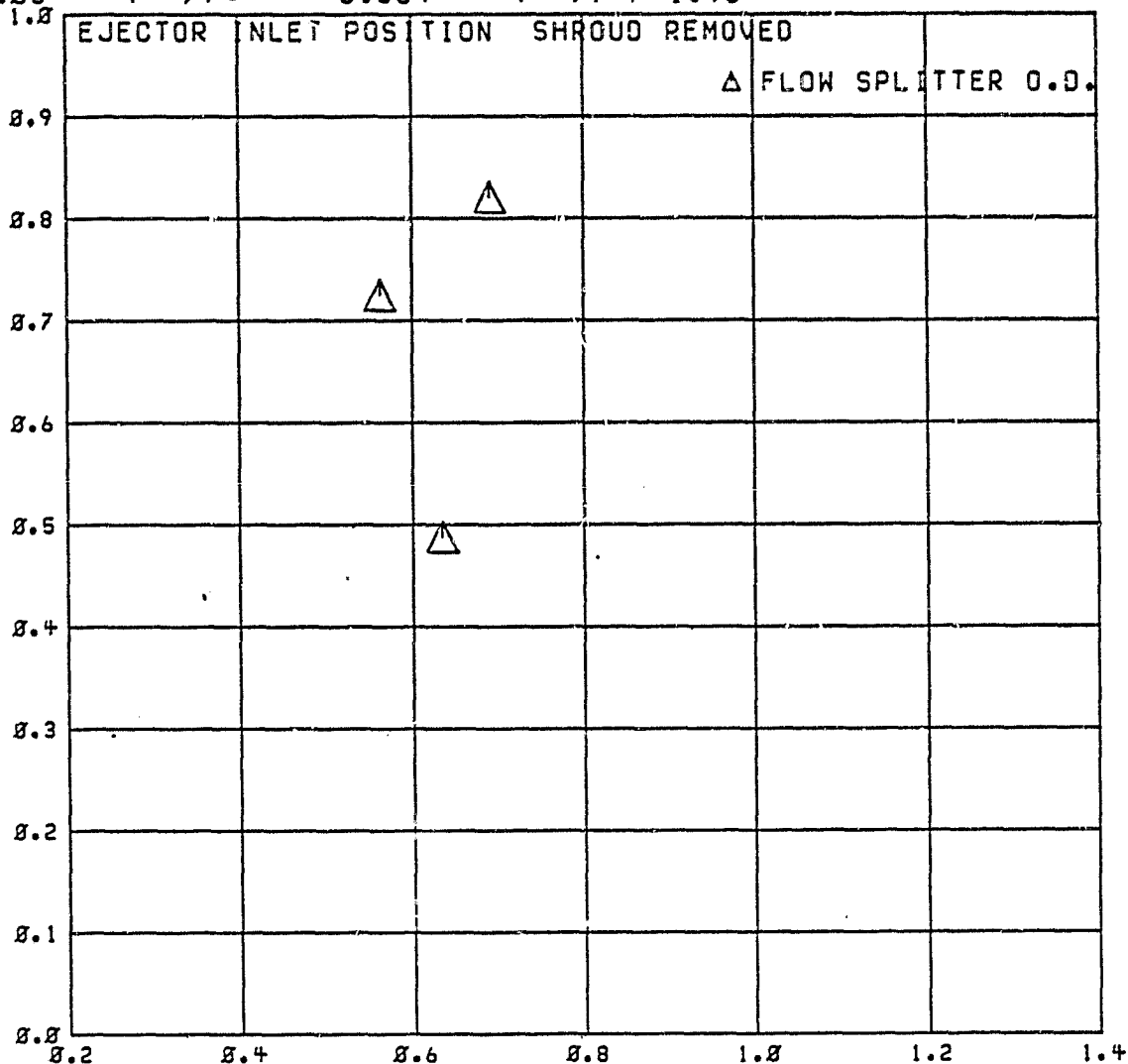
$M_0 = 0.83$

$P_{tr}/P_{0\infty} =$

3.554

$P_{tr}/P_{tp} = 1.96$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_L/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

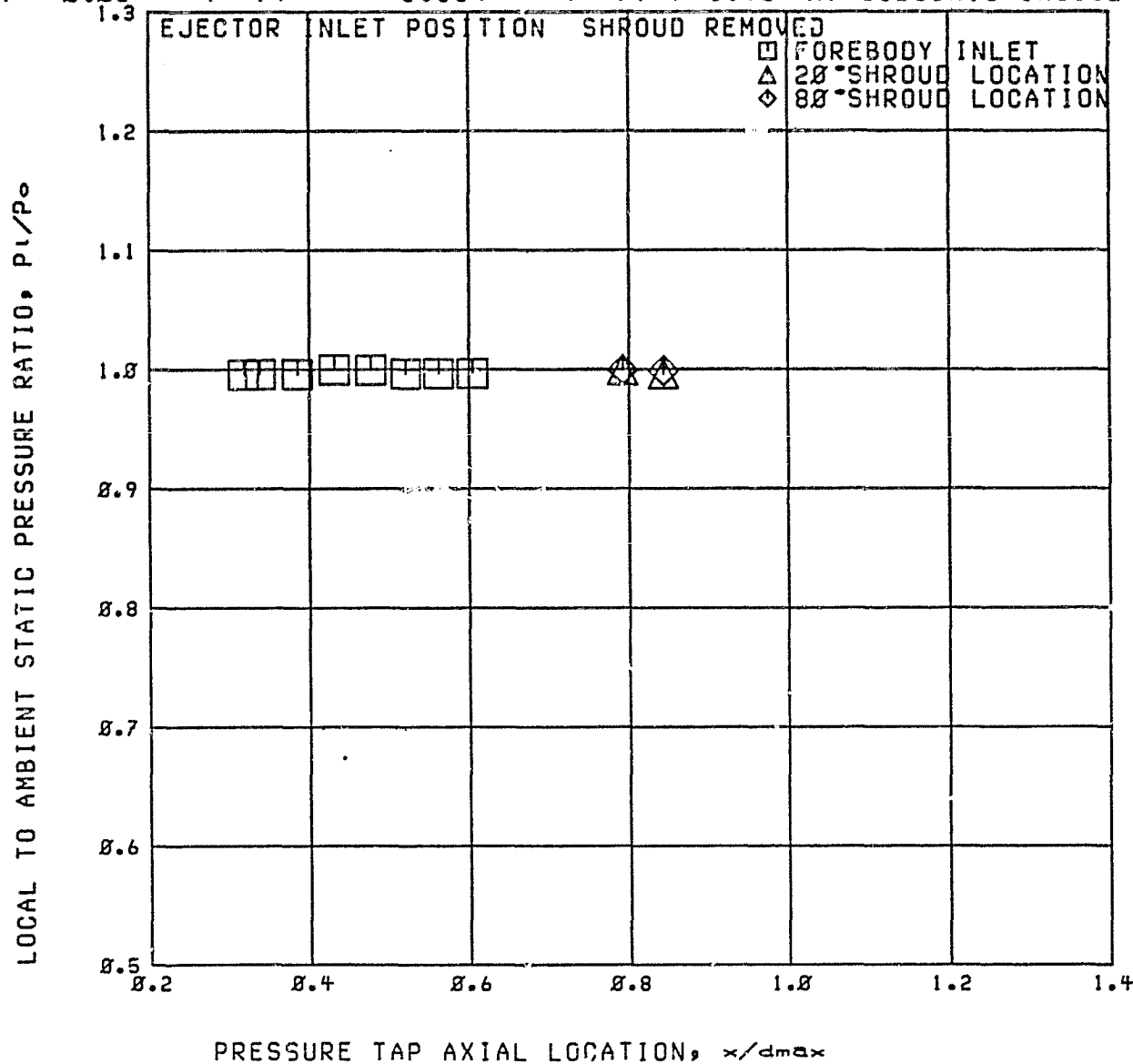
RUN 63

RDG=2815

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_0 = 0.83$   $P_{tr}/P_0 = 3.554$   $P_{tr}/P_{tp} = 1.96$  AT SUBSONIC CRUISE



Run 63

A2

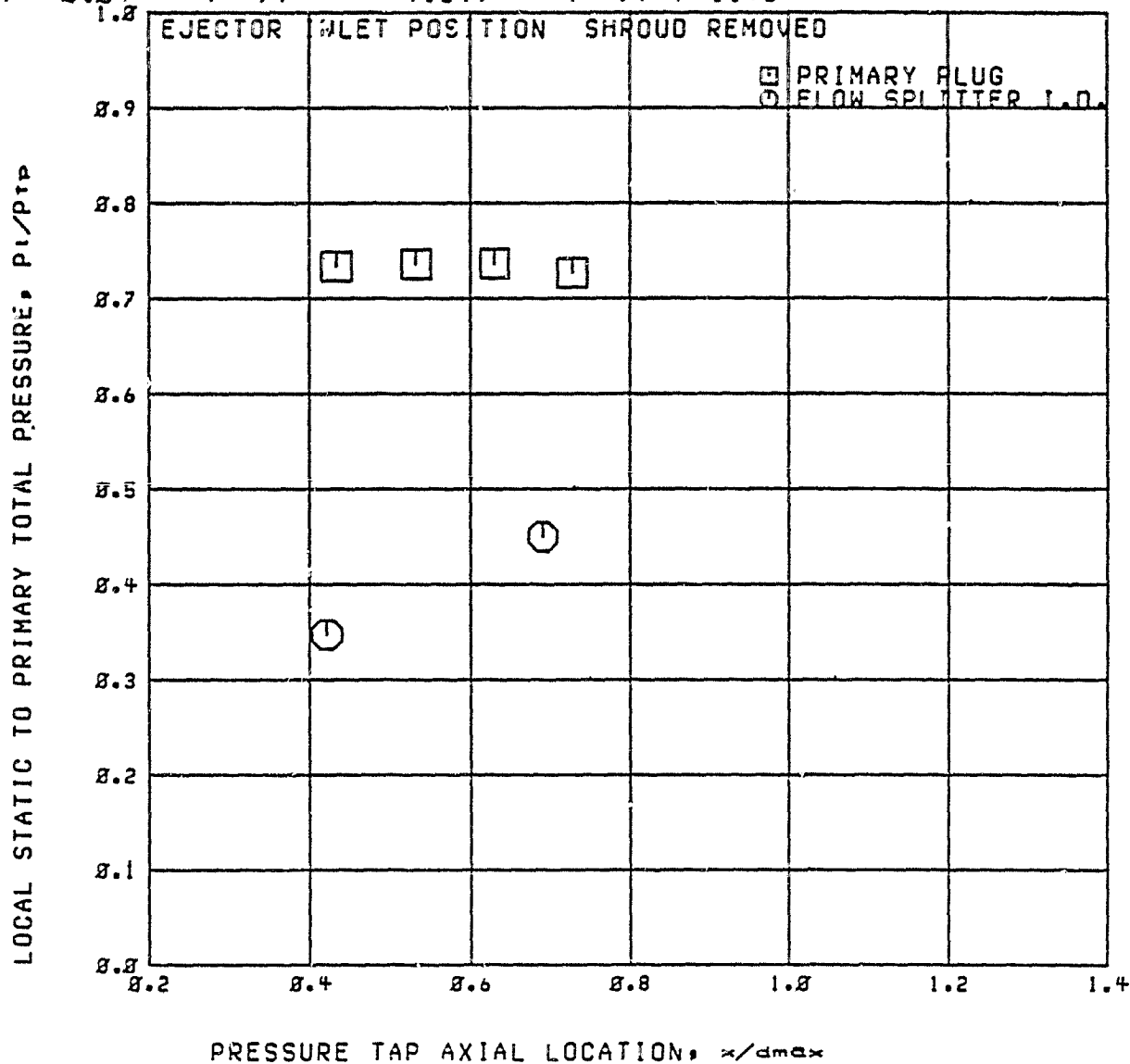
RDG=2816

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.84$

$P_{tr}/P_o = 4.549$

$P_{tr}/P_{tr} = 1.96$



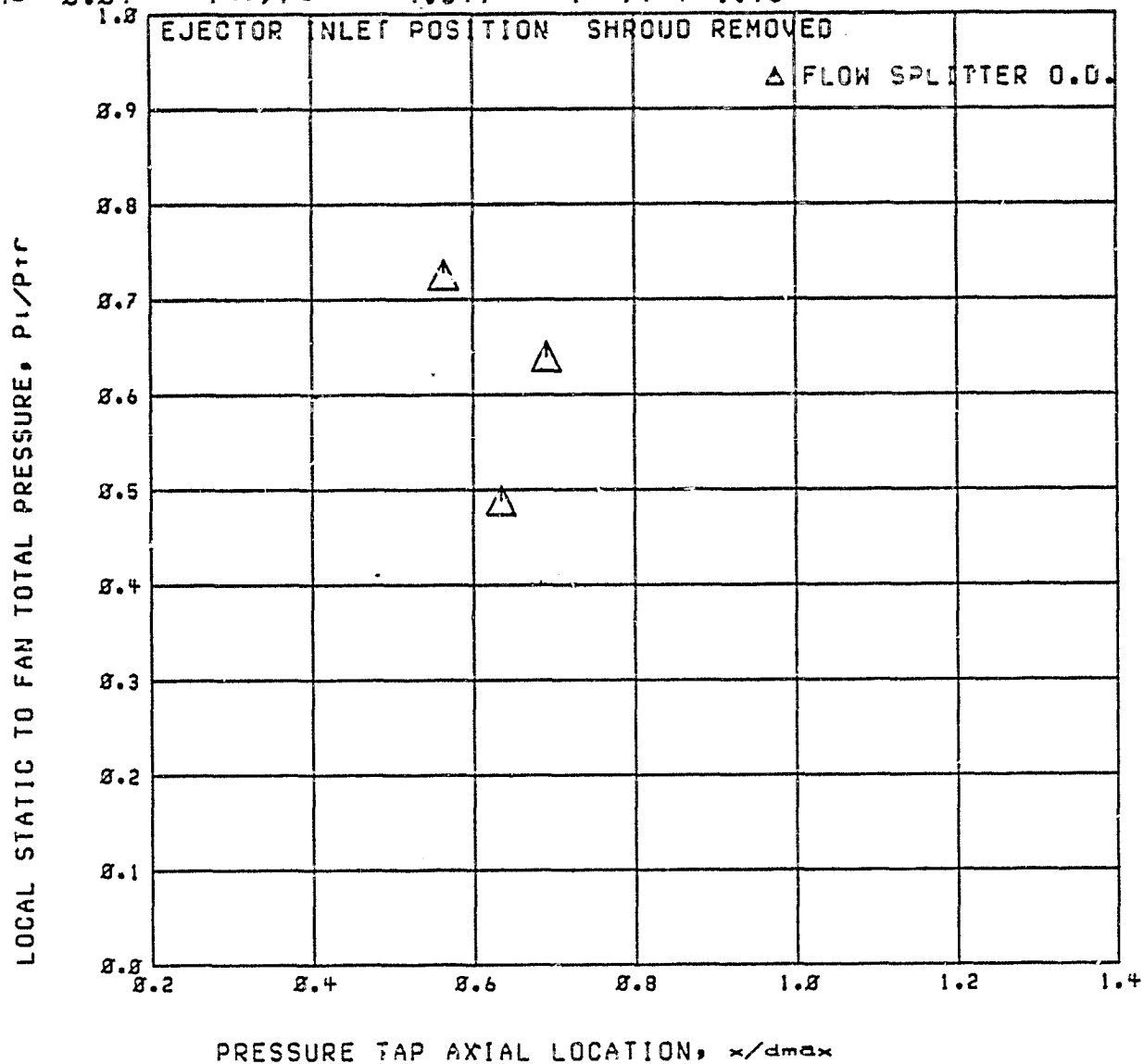
Run 63

A2

RDG=2816

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_o = 0.84$   $P_{tr}/P_o = 4.549$   $P_{tr}/P_{tp} = 1.96$



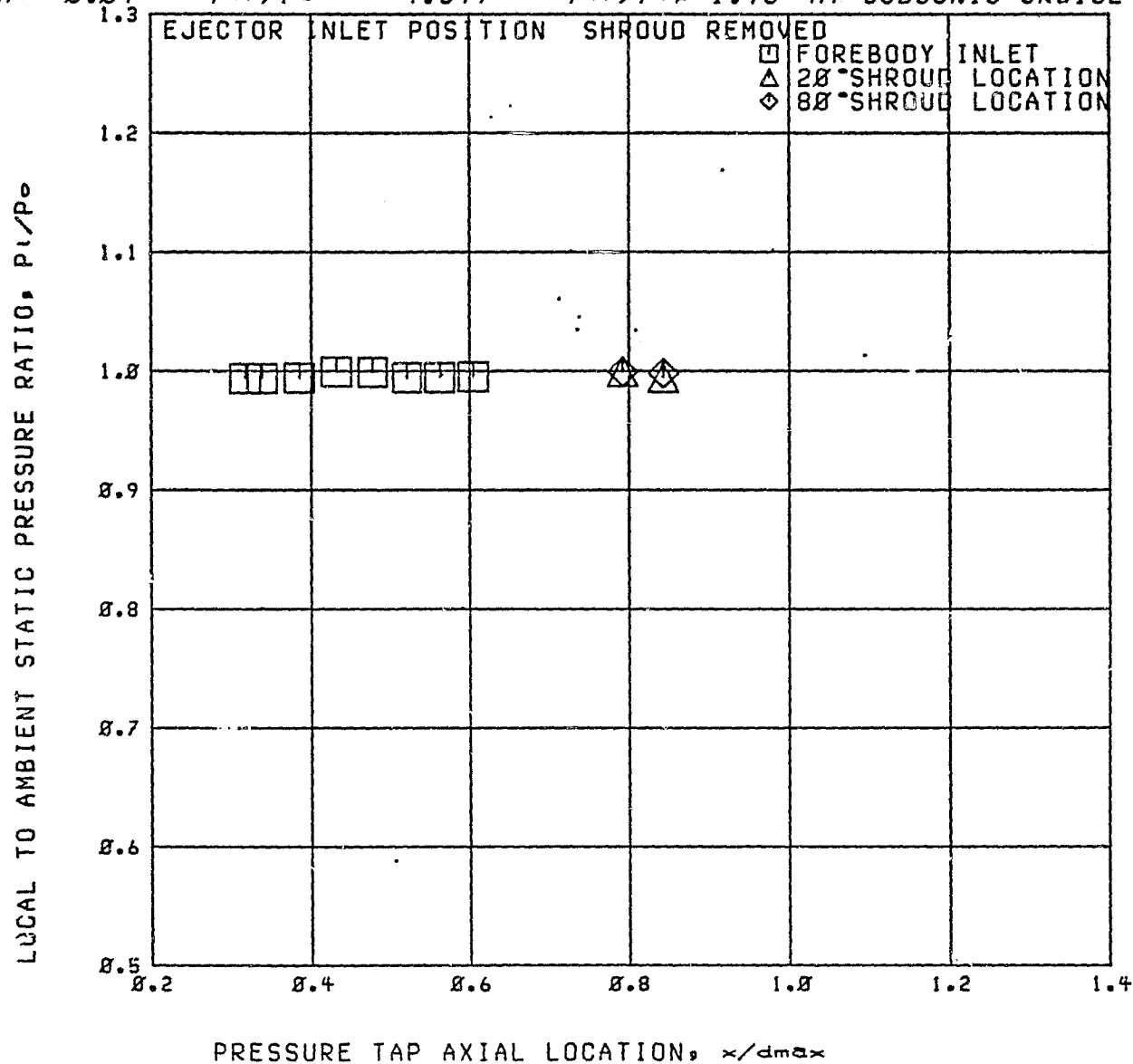
RUN 63

A2

RDG=2816

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.04$   $P_{tr}/P_o = 4.549$   $P_{tr}/P_{tr} = 1.96$  AT SUBSONIC CRUISE



Run 63

A2

RDG=2817

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

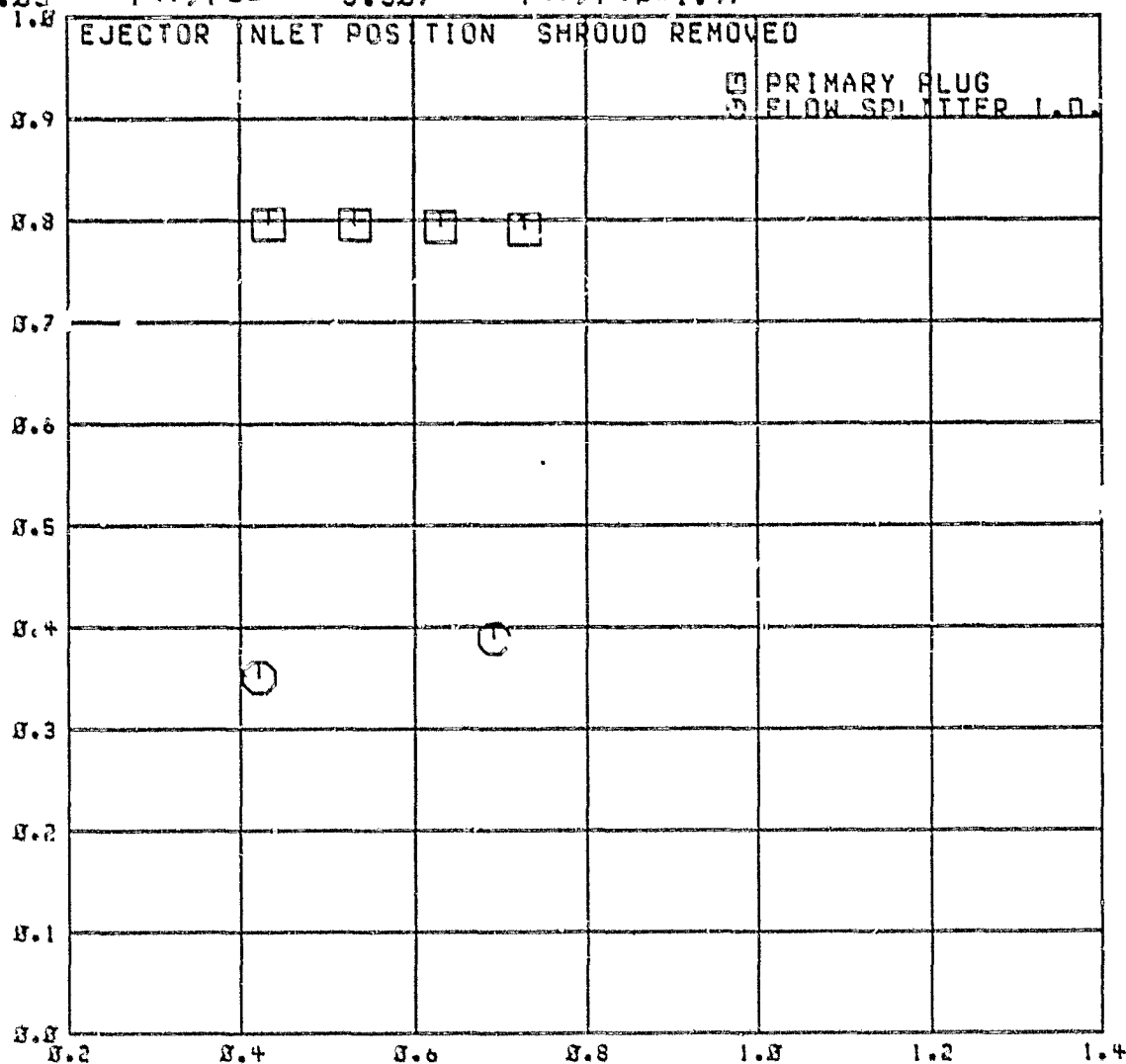
$M_0 = 0.85$

$P_{tr}/P_{0e} =$

5.387

$P_{tr}/P_{tp} = 1.97$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$



RUN 63

A2

Q06=2817

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

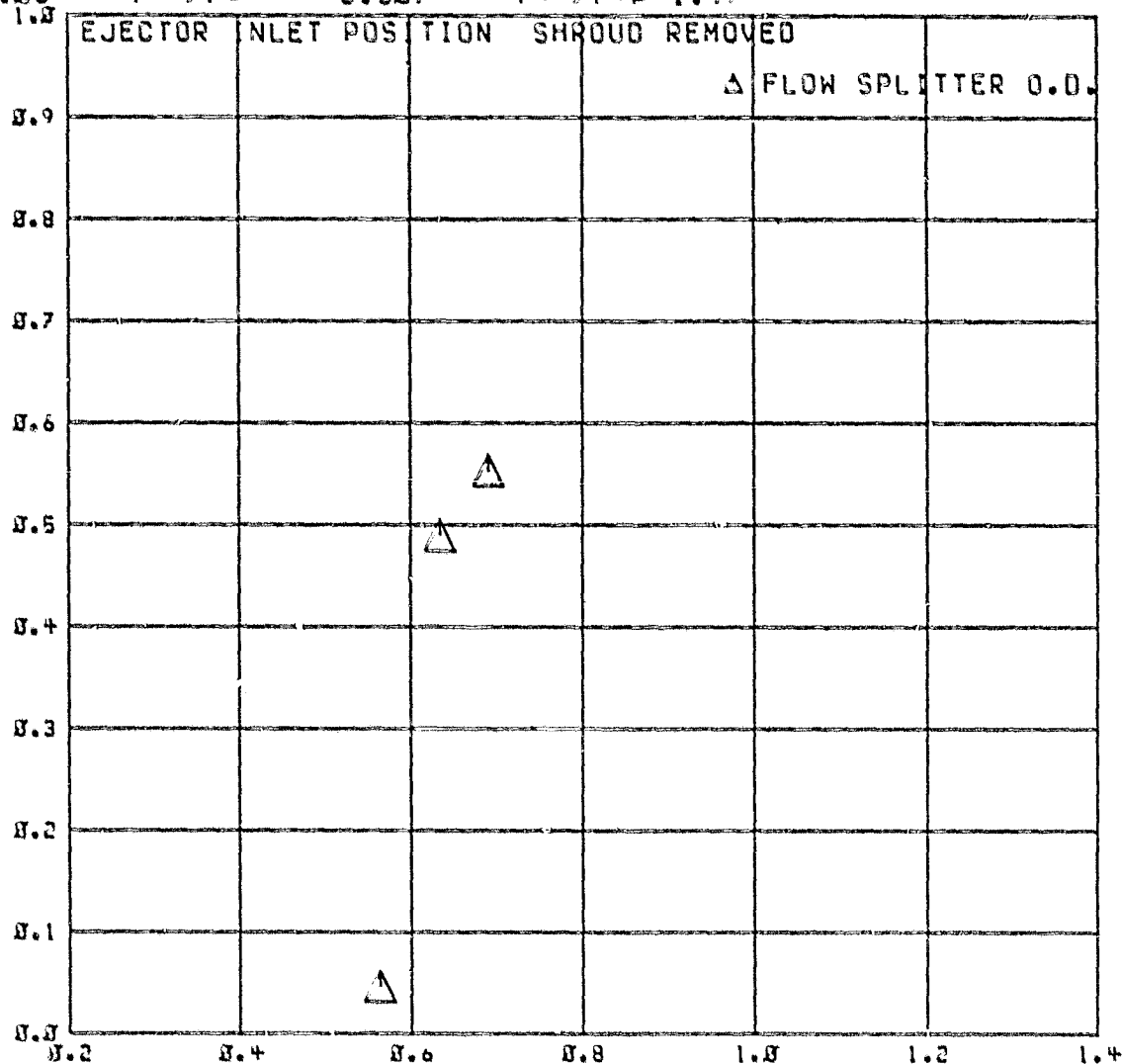
$M_0 = 0.85$

$P_{tr}/P_0 =$

5.387

$P_{tr}/P_{tr} = 1.97$

LOCAL STATIC TO FAN TOTAL PRESSURE,  $P_i/P_{tr}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

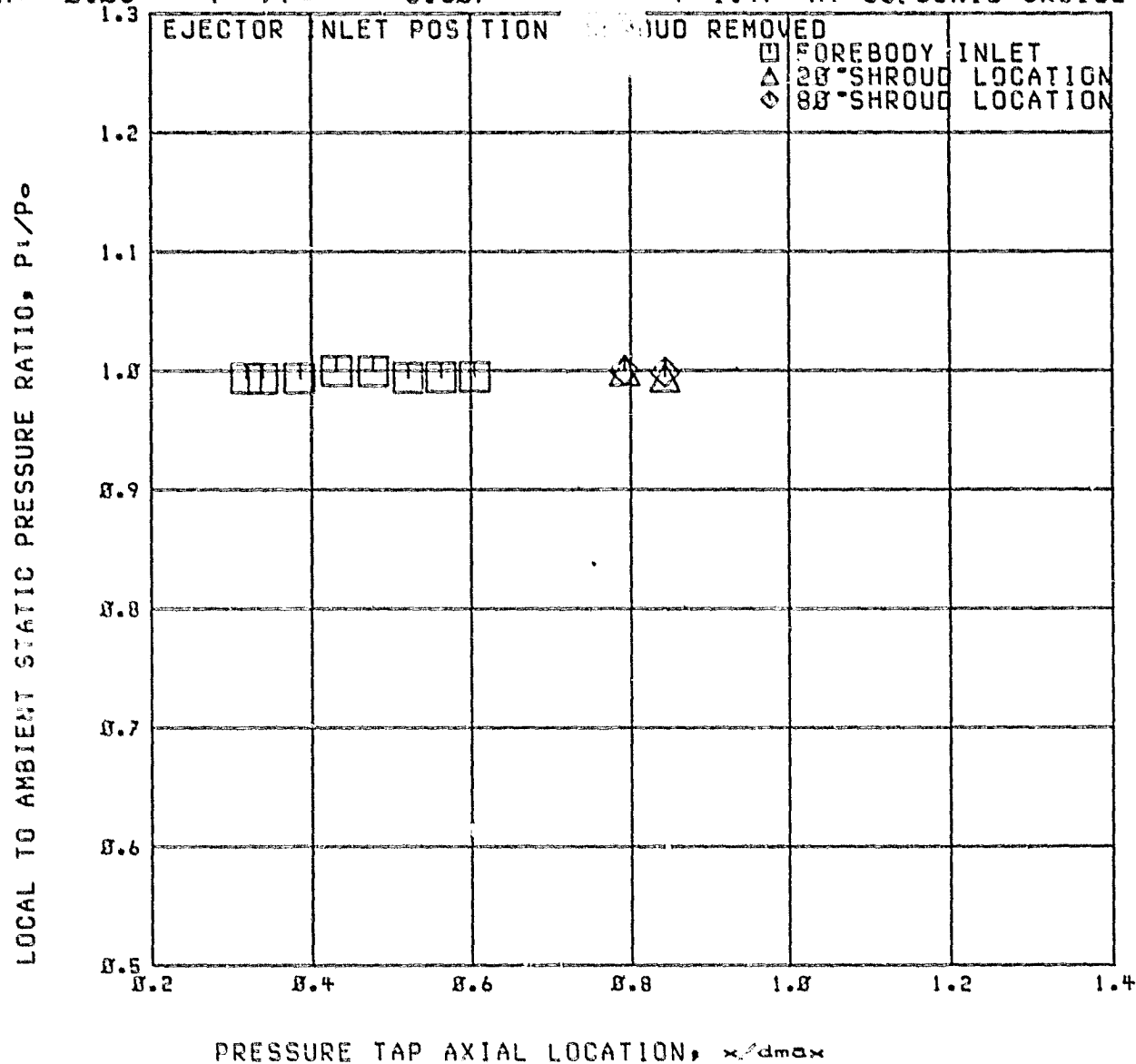
RUN 63

RDG=2817

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.95$      $P_{tr}/P_o = 5.387$      $P_{tr}/P_{tp} = 1.97$  AT SUBSONIC CRUISE



RUN 63

A2

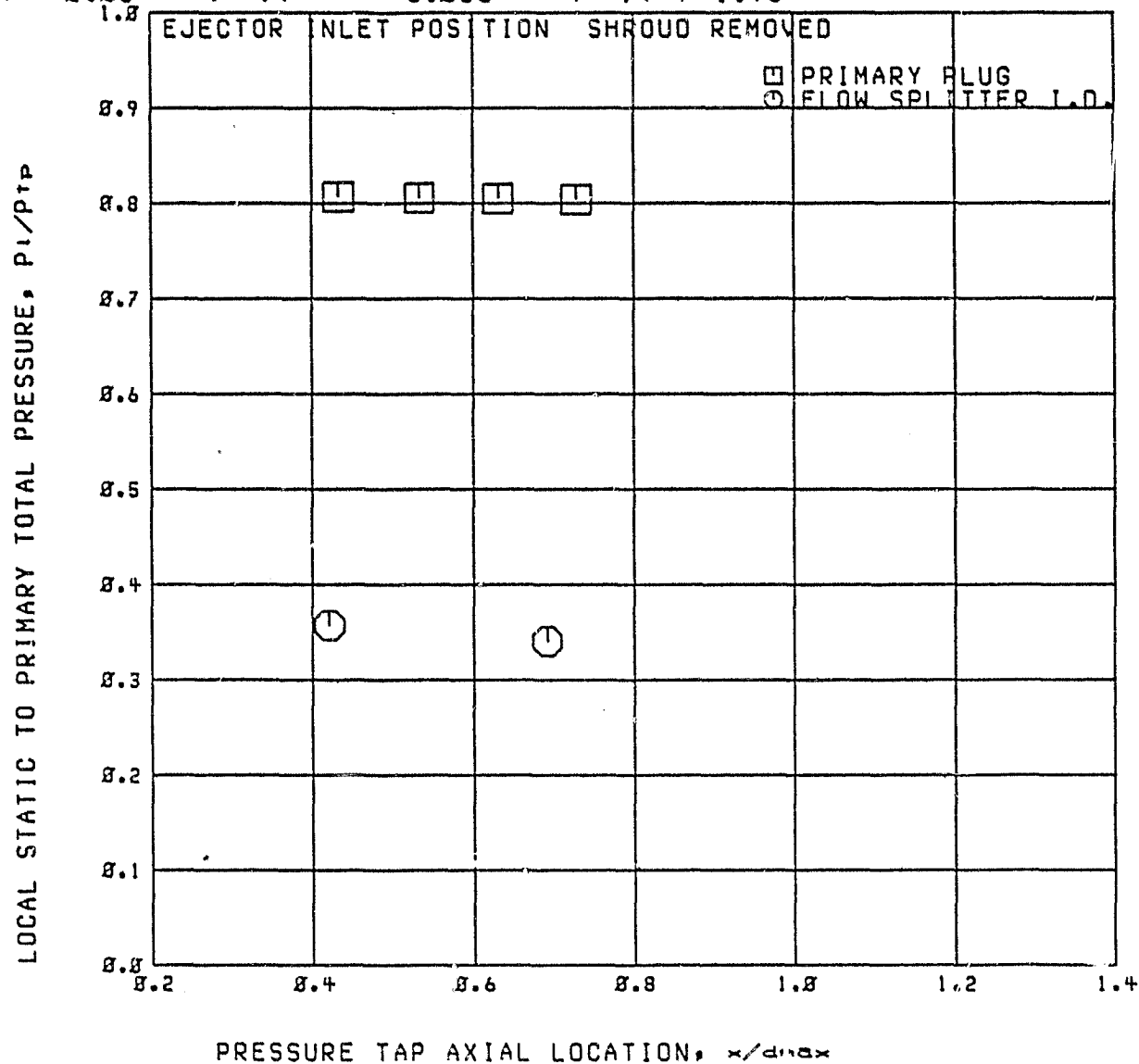
RDG=2818

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.85$

$P_{tr}/P_0 = 6.056$

$P_{tr}/P_{tp} = 1.96$



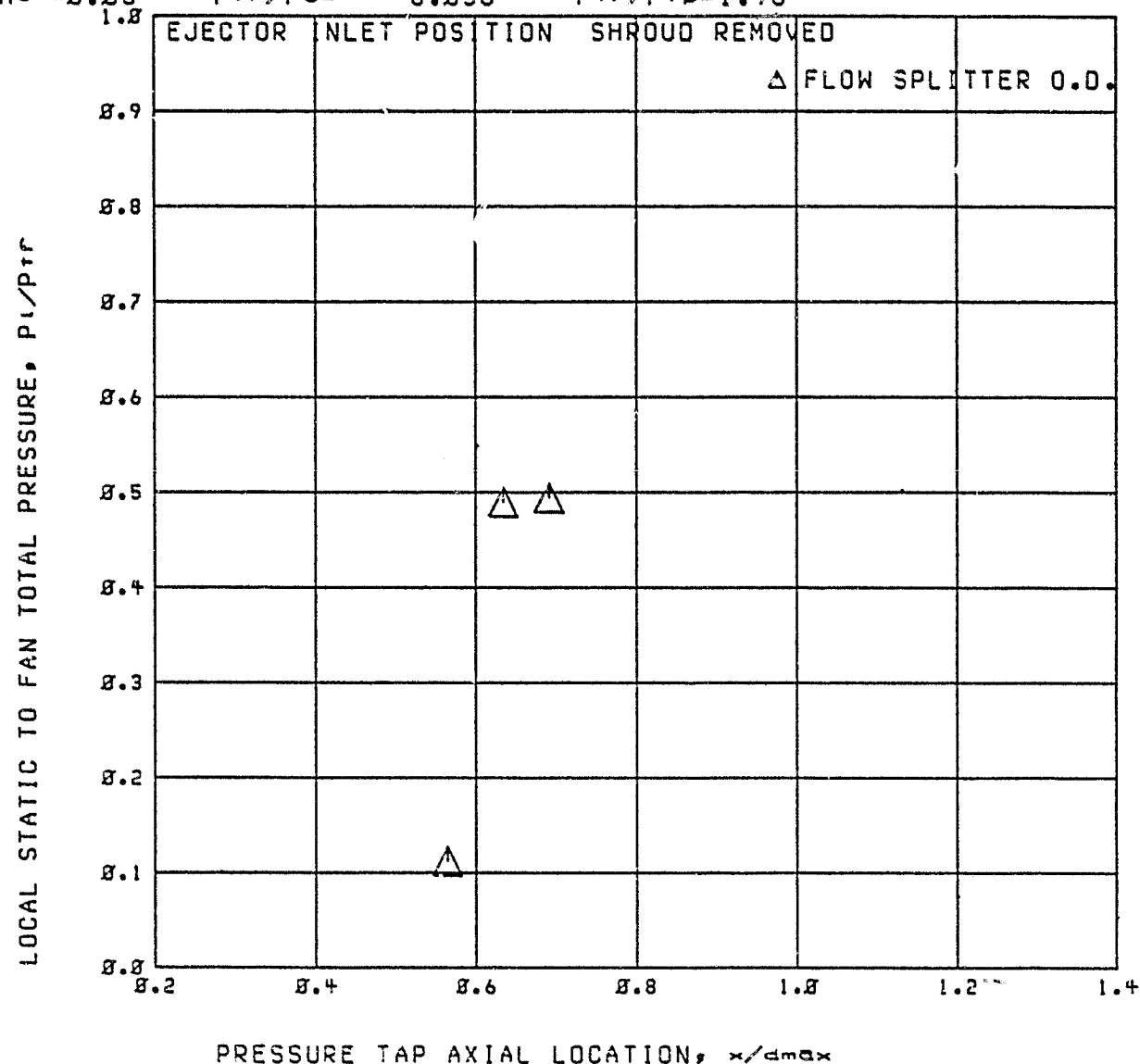
Run 63

RDG=2818

A2

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.85$   $P_{tr}/P_0 = 6.856$   $P_{tr}/P_{trp} = 1.96$



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RUN 63

RDG=2818

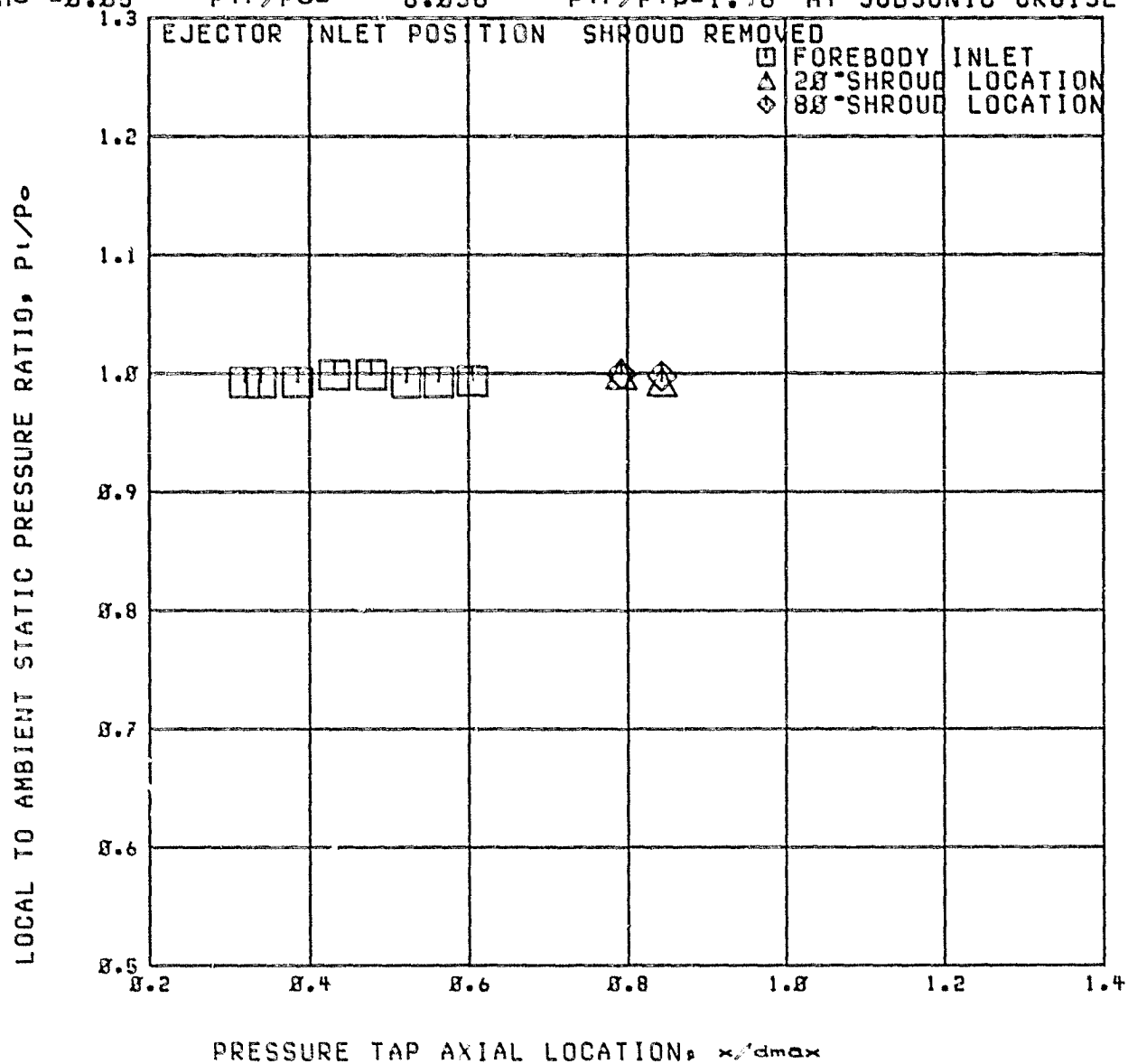
A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.85$

$P_{tr}/P_o = 6.856$

$P_{tr}/P_{tr} = 1.96$  AT SUBSONIC CRUISE



RUN 63

A2

RDG=2819

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

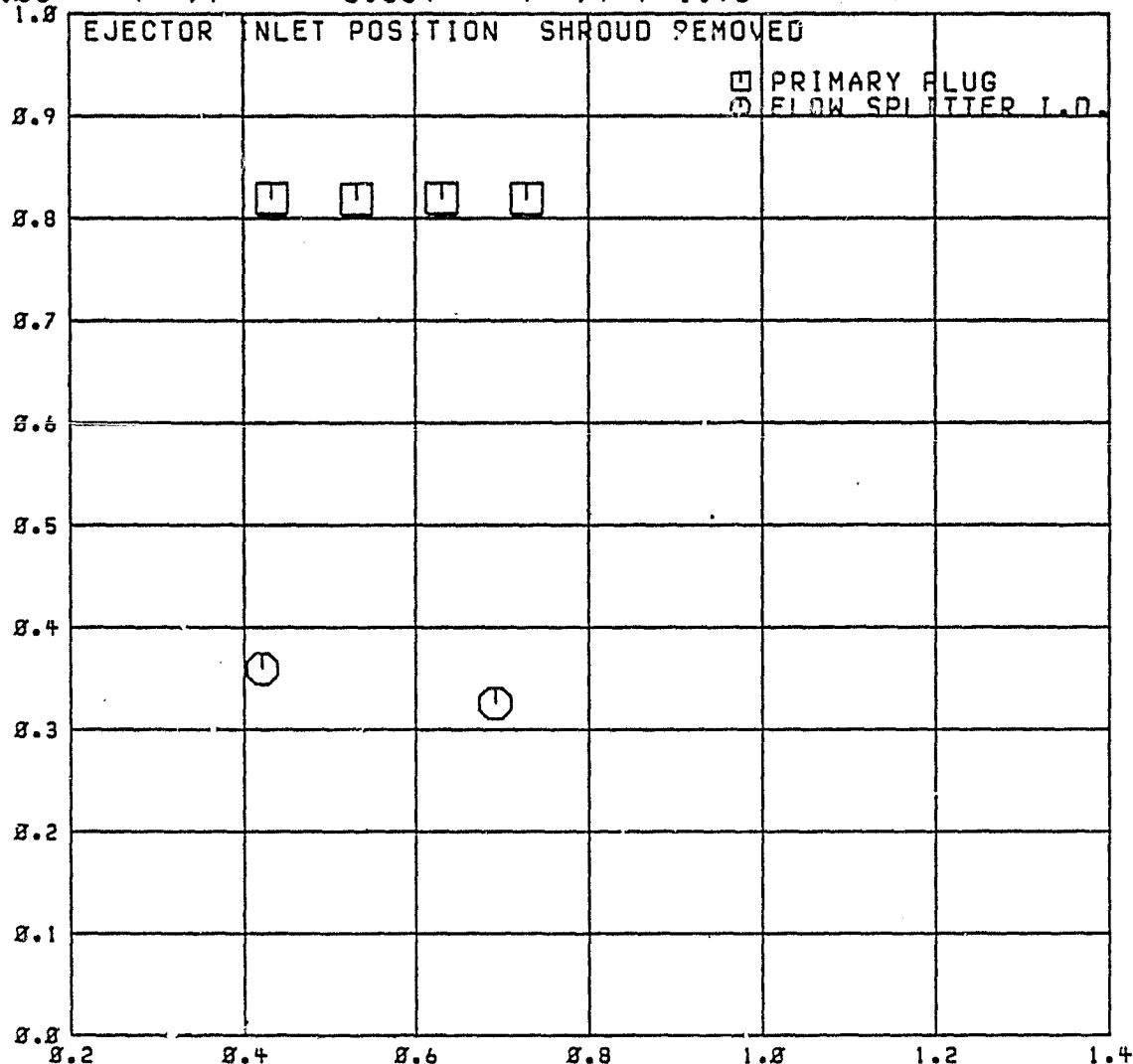
$M_0 = 0.85$

$P_{tr}/P_0 =$

6.364

$P_{tr}/P_{tp} = 1.96$

LOCAL STATIC TO PRIMARY TOTAL PRESSURE,  $P_i/P_{tp}$



PRESSURE TAP AXIAL LOCATION,  $x/d_{max}$

Run 63

A2

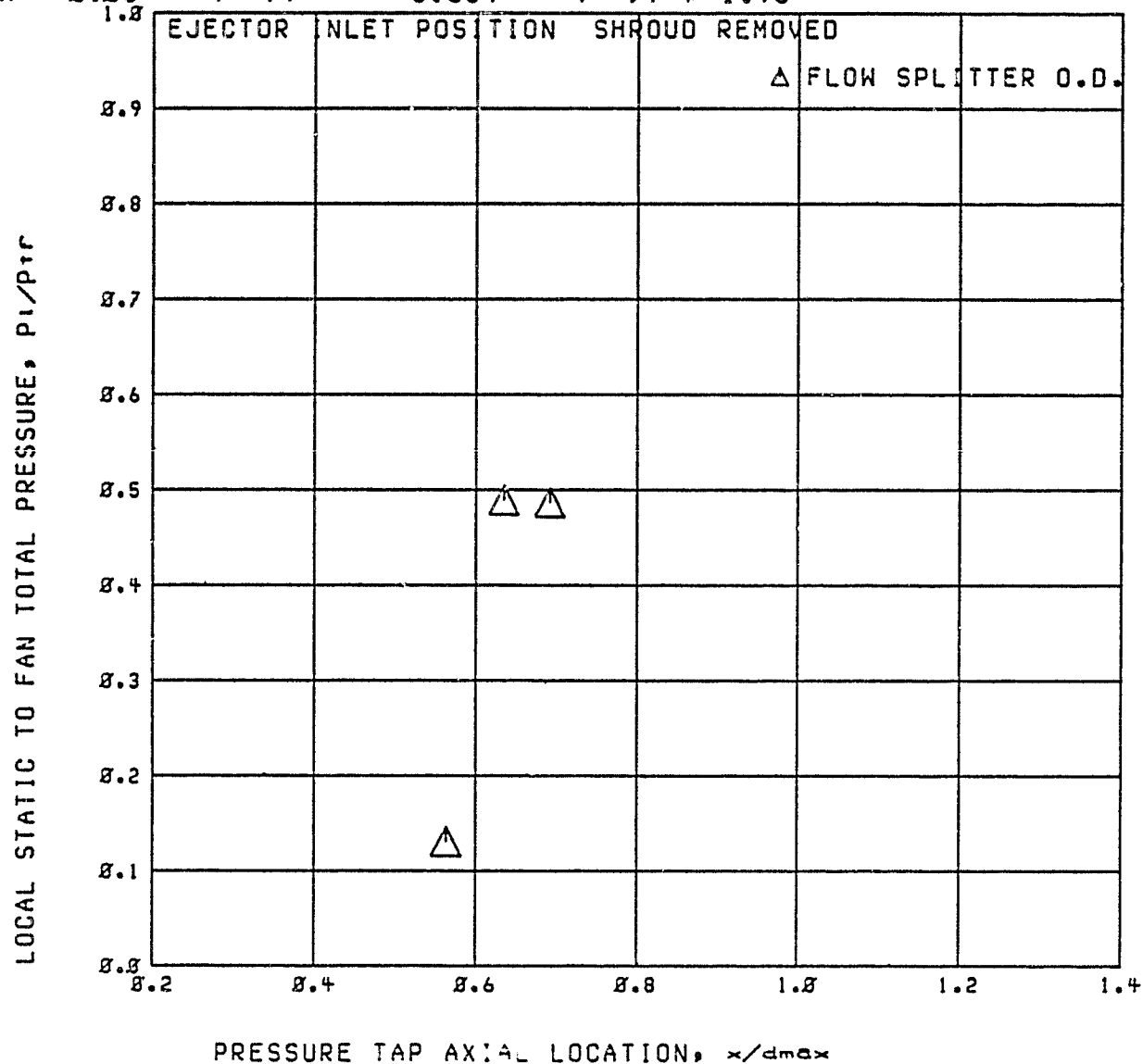
RDG=2819

PLUG AND SPLITTER STATIC PRESSURE DISTRIBUTIONS AT SUBSONIC CRUISE

$M_0 = 0.05$

$P_{tr}/P_0 = 6.364$

$P_{tr}/P_{trp} = 1.96$



RUN 63

RDG=2819

A2

# EJECTOR INLET AND SHROUD STATIC PRESSURE DISTRIBUTION

$M_o = 0.85$   $P_{tr}/P_o = 6.364$   $P_{tr}/P_{tp} = 1.96$  AT SUBSONIC CRUISE

